Arris and Gale Lectures

ON THE

RELATION OF EXPERIMENTAL PHYSIOLOGY TO PRACTICAL MEDICINE.

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LECTURE I.—PART I.

THE SYSTEMS OF MEDICINE NOT DEPENDENT ON PHYSIOLOGY.

MR. VICE-PRESIDENT AND GENTLEMEN,—From a natural distaste to medical matters, which seems fixed in the mind of all healthy individuals, and the many technicalities which are inseparable from the healing art, the details of medical science are ignored by the great majority of the laity. One is often surprised to find intelligent and well-educated people with but a vague idea of what physiology really is, and without the least conception of the meaning of the term experimental research. But it is still more surprising, and to physiologists more disappointing, to find that some medical men do not appreciate what they owe to experimental physiology. I have met with many who regard physiological teachers and workers as very useful persons in so far as they instruct young men in the elements of their profession, and prepare them to pass the examinations imposed by the licensing bodies. Some even go so far as to admit that a little knowledge of physiology is advisable or even necessary for the practice of medicine; but when they hear of any form of exact modern research, such as the graphic method, or some new mode of investigation, they are ready to exclaim that physiology of this kind does not bear any very close relation to the practice of their profession, either as surgeons or physicians; they believe that the physiology they learned as students sufficed to make them very successful practitioners. This is in most cases quite true, and would have been equally so had Hippocrates, Boerhaave, or Cullen said it in their time. But even a modern practitioner, following a routine practice would not like to be deprived of his knowledge of the circulation when feeling a pulse, or of the uses and mechanism of breathing when examining a patient's chest. Yet the times were when the views we now hold on these very subjects were thought to be worse than new-fangled and useless, and were said to be wrong and hurtful to the sound practice of physic.

We are now, no less than at all other times, at a point of medical history when complaisant reflections concerning the adequacy of our knowledge must be challenged. One of those remarkable periods has arrived when the nature and the necessity of a certain branch of medical study are called into question by the public. I believe the ultimate progress of medicine is seriously threatened, partly by a want of understanding as to what are its true aims, foundations, and modes of growth, and partly on account of a wave of intense sentiment which is influencing the judgment of a certain powerful class which now-a-days seems to be thrown with great readiness into turbulent undulations. When we glance over the history of the healing art, we recognise that there were periods in which medical science was not only threatened, but absolutely checked and sent backwards, by the force of bigotry on the part of the public. It seems difficult for us now to conceive how it came to pass that for some two thousand years (twenty centuries) biologists and philosophers remained ignorant of the construction of the human body. But we know such to be the fact, and that it was simply because a certain prejudice forbade the section of the dead.

To-day it is the sister study of physiology, by which we learn the mode of working of the living tissues, that is threatened with annihilation from a somewhat similar prejudice. So important do I think the present crisis so far as the progress of medical knowledge is concerned, at least in this country, that I have chosen to devote the three lectures I have the honour to give under the foundation of the Arris and Gale bequest to an attempt to make clear the dependence of the ordinary details of the rational practice of medicine upon a groundwork of physiological knowledge. And further, I shall show that physiology depends on experimental methods of investigation. Experiment, it is true, is only the scaffolding by means of which the edifice is built up, and of which one hears but little when the house is completed and the inhabitants enjoy its comforts. Physiology itself is the main structure of the building, while the everyday application of medicine in practice corresponds to the internal furniture which makes the whole habitable and useful. A man resting in his easy chair may disclaim the utility of scaffolding and bricks and mortar, &c. He might say, "this chair is good enough for me, I want no scaffolding," with quite as much reason as a medical man engaged in practice could declare himself independent of the knowledge of physiology. In order to form a right judgment on these matters I must ask you first to accompany me back to the earlier stages of medical knowledge, before physiology was known, and to reflect on the modern systems, which depend on vague or unscientific physiology. We shall then recognise the fact that for a long time the best human intellects struggled to understand the working of the human organism, without making any material steps in advance, and that medical science had to wait many centuries before permanent improvement occurred; and, further, that this did not take place until after the birth of physiology as a definite branch of experimental science.

Under the heading of to-day's lecture I propose to include, first, Mystic Methods; secondly, the routine application of rigid rules commonly known as the Methodical System; thirdly, Vulgar Empiricism.

The first attempt at the healing art of which we have any record was intimately related to the mystic and religious ideas which naturally suggest themselves to the unoccupied mind of primitive man. All completely uncultivated human beings, finding themselves surrounded by the imposing phenomena of nature, begin to regard them with a peculiar mystic dread, and, recognising in them irresistible powers, proceed to give fantastic personification to all the phenomena which they cannot understand. They thus be-people the entire natural world with supernatural beings, whom they think capable of doing them a benefit or an injury. The exigencies of existence prompt them to formulate the convenient doctrine that good and bad deities or demons exist; and by certain dogmatic rules they hope to propitiate the one and protect themselves against the other. By this kind of primitive religion they procure for themselves the most immediate and beneficial results in the least troublesome and most efficacious way. The most awful among the more striking occurrences which are presented to their minds are sickness and death. These as well as all other misfortunes are attributed to the worst sort of demons, so a means had to be found either to propitiate these supernatural enemies, or, with the aid of other demons, to check their power. This controlling of unknown powers has always been found to be a matter of some difficulty, and the task had therefore to be confided to specialists (the priests), who by their learning and superior intellect were better able to cope with the higher beings. The priests supplied blessed curative charms, and expensive emblems for the cure as well as the prevention of disease. Incantations, prayers, ceremonies, and many other methods, which strike us as ridiculous, and opposed to all reason and common sense, are employed for curing disease even to this day by all barbarous and some cultivated peoples. In the undated ages of early Indian history the gods were the only protectors of health and curers of disease. Then came priestcraft; at first holy, then magical, and finally purely mercenary. The priests of the great Zoroastrian religion, the magi, were the only medical practitioners of their time in the empire of Persia. In Egypt, the priests, prophets, or magicians, attained great repute as therapeutists; and though they mingled some alchemy with their charms, their chief treatment depended on the occult powers they were supposed to possess. Among the Israelites the priests had charge of the health of the people; and we know how in the wilderness sickness was cured and plague checked by religious methods. When the Levites became too corrupt in the later days of the empire, the prophets alone could be trusted to cure disease, and then only by powers given them directly

from Jehovah. Even in the home of antique culture, where human art possibly attained its highest summit, we find Apollo, the god of poetry and music, also presiding over medicine. From the Temple of Delos come some of the earliest records of Grecian medicine; and later the Temples of Cos and Knidos, and others, became justly celebrated. To these holy and hygienically situated health resorts, none dared approach without due and wholesome preparations by prayer, ablutions, offerings, and fastings. The patients were received by the priests (the direct descendants of Æsculapius) with mysterious ceremonies, music, and *fêtes*. Aided by the salubrity of the situation of the temple, and by the hygienic care to which the patients were subjected, the simple cases usually progressed favourably, and the priests were soon able to apply a "cure," said to be revealed to them in a dream. In Rome, where civilisation had advanced in so many respects, the healing art remained in the hands of the gods. Prayers to Hygeia, Isis, Minerva, Mercury, or Hercules were deemed more useful than any human means in case of illness. When a plague broke out, there were but two recognised methods of causing it to abate. One consisted in giving a grand feast to the gods, when the most delicate comestibles were offered to their idols by being exposed in the streets. When this Lectistern, as it was called, did not prove successful, there remained but the solemn ceremony of driving a nail into the right wall of the Temple of Jupiter. Time after time the enraged gods sent terrible plagues to Rome, and again and again a lavish feast was offered to the idols, or the mystic nail was driven into the temple wall.

Then came the Christian era. When the church spread its influence over the great eastern empire, the old temple medicine naturally had to give way, and polytheistic therapeutics gradually began to die out. The rulers of the day having adopted Christianity, they made use of all its name and influence to put down the old power of heathen magic. Just as the early Christians were at first persecuted as sorcerers, and their chiefs regarded as Jewish cabalists, so, when the tables were turned the newly acquired strength of Christianity was devoted with equal barbarity and cruelty to the extinction of the medical witchcraft and other dangerous magic influences. The heathen deities were looked upon as representing fallen angels, and those who practised medicine were thought to be in direct communication with the devil. The idols of the gods were dashed to atoms, and those who professed to cure by what was called the black art were massacred or burned. It became not only the right but the duty of all good Christians to lend a hand to the doing away with medical conjurors, witches, and the like, till Europe blazed with burning stakes to which were tied the workers of these magic cures. But this burning of magic doctors did little good for the healing art. The monks assumed, and for many centuries held almost a monopoly of medical practice. Learned though they were, they remained throughout the period of their sway far behind the old temple medicine of centuries before. The love of mystic methods was too deeply rooted in the human breast to be banished by the destruction of the professors of mystic medicine. We find that the practice of the holy monk-physicians differed chiefly in name from those of the sorcerers whom they persecuted with such zeal. They gave to their patients blessed amulets, on which were mystic signs to cure and ward off disease, as well as to act as a protection from witchcraft. The therapeutic value of fragments from the graves of holy martyrs, the efficacy of a drop of water from a holy well were highly esteemed. Religious ceremonies and prayers were still the only sure means of cure; and we hear of special saints who exerted specific influence upon various forms of disease—as St. Judas for cough, St. Valentine for epilepsy, St. Clara for ophthalmia. The laying-on of hands by some saintly father, and other mystic and theistic rites, were the best of the then known therapeutic methods. Under the influence of this dogmatic religious system all medical learning remained in abeyance. The sound principles of Hippocrates were forgotten, the crude physiology of Galen was no longer made use of. How far the all-absorbing influence of Christianity, guided by the rigid dogmas of Rome, is responsible for this long period of darkness and ignorance we cannot say; but the astounding and instructive fact remains that for more than 1200 years not one great step in advance was made in the healing art.

With the revival of letters a marked change comes over the scene. The Reformation broke the power of the priests. The art of printing aided in a way heretofore impossible in the diffusion of knowledge. Universities were founded. The sciences began to move onward. The mode of working of the human body was again taken into consideration by some professors of medicine and anatomy.

But the mystic element still pervaded the minds of even some of the most learned men. Paracelsus was one of these. Equally notorious for his power as a reformer, and his personal vanity, he may be regarded as the greatest mystic physician of the Renaissance—or, indeed, of any age. Thoroughly imbued with the alchemistic and astrological magic of his time, yet versed in the old Grecian philosophy, he spent his life in searching for a universal specific, and in uprooting the faith in the ancients; he despised the physiological essays of Galen, and burned his works. Paracelsus was the very type of a thorough charlatan, the prince of unphysiological medicine. He denied the utility or necessity of knowing the cause or mode of origin of disease. The physician, he said, need only be able to cure it. According to him there were four pillars to medicine: philosophy, astronomy, alchemy, and the qualities of a physician. Excellence in these alone was needed to ensure the cures of all diseases. He regarded disease as a real personified enemy, with which the spiritual power of the organism had to fight. He says: "The body of man is made of visible parts, the flesh and the blood, and of invisible parts which reside in this body, and see, feel, and understand: this is the internal alchemist." He declared that one must study the cheiromancy of plants, "Since the lines of the leaves show their powers and properties." Thus, heart-shaped leaves were employed by him in cardiac diseases, yellow saffron was used to cure jaundice, and many absurd and disgusting remedies were administered by him on similar grounds. Much and deservedly as Paracelsus has been abused, we must admit that we owe something to him. He helped to make way for the advancement of medicine, not by adding one jot of knowledge, but by breaking down the great barrier of authority which the slothful ignorance of ages had allowed to stand in its path. It was not by his genius or learning he did this. It was chiefly by his egotism and vanity, which prompted him to set himself up above all his predecessors and contemporaries. His name gives a fair idea of his character, in full it runs thus, Aurelius Philippus Theophrastus Paracelsus Bombastes von Hohenheim!

If the anti-vivisectionist axiom be true, that all we know now could have been made out by clinical observation and thought, why is it, I ask, that such an able man as Paracelsus went backward instead of onward when he adopted these means of study and despised and neglected all experimental investigation?

His views soon became ridiculous. But long after Paracelsus was dead, mystic medicine showed itself in different forms. These all had in common a perfect disregard for the working of the healthy human frame and the mode of origin of pathological processes. Of each of these we have examples still extant. The first is the purely religious. Believing that all forms of disease are sent by the Almighty as punishment for our sins, this sect thinks that all human efforts for their prevention or cure are, and must ever be, fruitless. Prayer alone is efficacious in making amend for sins, and therefore it is the only reliable mode of treating the diseases induced by them. This form of belief is now not very widespread, but it still exists in England. Not unfrequently we hear of a person belonging to the class known as "peculiar people" being summoned by the public prosecutor for allowing a patient to die without the advice of a duly registered practitioner. It appears to me to be a strange anomaly that the law of the land makes it manslaughter to adopt an ancient form of non-physiological treatment, and at the same time a felony to carry out the investigations on which rational medicine has been built up.

The second sect of persons are those who believe only in specifics, disregarding the cause, mode of progress, or even the region in which the disease lies. There are to-day, as 350 years ago, people who have an implicit belief in remedies that can cure the majority of incurable diseases. The enormous sale of the many quack specifics now in vogue, the great fortunes amassed by the proprietors of absurd patent medicines, the number of otherwise reasonable people who habitually dose themselves with some useless mess, clearly show that in these matters the public is not influenced by wisdom or knowledge, or even the crudest common sense.

The third form of mystical practice is homœopathy. On the Continent, where it was born and for some time ran rife,

penetrating even into the schools of medicine, it is now almost dead. It is only in England and America that homœopathic hospitals exist. The Germans say they cannot understand how it is, when Englishmen are "sonst so sehr practisch," that England is the birthplace of bigotry, the nursery of fanaticism, the garden in which all forms of "humbug" seem indigenous.

The *similia similibus* of Hahnemann can obviously be traced to the dicta of the arch-quack Paracelsus. The same power that induces a disease can cure it, said he. With the cause, the mode of action, or pathological change produced by the ailment the physician has nothing to do. Disease being a peculiar condition of an immaterial vital principle, the medicines should be suited to its properties, and must be used in such doses, and in such states, as make them powerful against such a force. Thus the extremely minute doses and their dilution became an important item in this mode of treatment. The persons who practise homœopathy at this moment are the active opponents of physiological study, and are often held up to the public as examples of medical men opposed to vivisection, and their opinions are freely quoted to rebut those held by the leaders of our profession who are best versed in physiological knowledge and its worth. Of course, homœopathic practitioners disapprove of physiological work. It is antagonistic to their trade. They cultivate the ignorant longing for mysticism which is inherited by every human being from his remote ancestors.

Clinical Lecture
ON THE
ASSOCIATION OF TABES DORSALIS WITH SYPHILIS.

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TABES DORSALIS is the most frequent of all the chronic affections of the cerebro-spinal axis, and the prognosis in this disease is practically hopeless. There is increasing evidence, no doubt, to show that cases may go on for a very long time without the symptoms becoming materially intensified, and even with encouraging periods of improvement. But as matters stand, we are unable to count upon more than this in any case of a confirmed character. At first sight, therefore, it would seem to be a point of more than ordinary importance to discover whether the disease is so far connected with a syphilitic origin as to encourage us to hope for success by treating the patient energetically with specific remedies.

In many morbid conditions such a discovery, by leading to appropriate treatment, produces the most triumphant results. But, as a matter of fact, in the case of tabes dorsalis expectations that may have been formed of a similar success have not been realised. Now and then, it is true, we meet with cases which improve remarkably for a time whilst iodide of potassium is being administered, but in my experience I have never known a cure to result from specific measures. From mercurial treatment, indeed, which I have had very carefully applied by inunction in a number of cases where the history of syphilis was distinct, I have seen no good whatever, but, on the contrary, as it seemed to me, a tendency to harm.

In 1871, writing upon the subject of syphilitic affections of the nervous system,[1] I included progressive locomotor ataxy amongst the nervous affections belonging to the tertiary stage of syphilis. At that time the frequency with which a syphilitic history was to be noted in these cases had long impressed me, and I was in the habit of treating my ataxic patients with iodide. But the remarkable absence of successful results appeared to throw so much doubt upon the matter that I carefully excluded the disease from consideration in my work on syphilitic nervous affections.[2] The connexion between nervous disorders and syphilis was then not generally recognised, and I was anxious to avoid weakening the force of that which was to be said on a very important subject by the introduction of debateable material.

The question of the relation of tabes to syphilis, although it had not escaped the attention of Lancereaux, Duchenne, and other writers, had not been very prominently brought forward before 1875, when M. Fournier, of Paris, expressed a strong opinion on the subject. Out of thirty ataxics he found a history of syphilis in twenty-four. He believed that the tabes in these cases was an outcome of syphilis, although according to his view it does not in these circumstances present any special symptomatology or lesions.

Now, it had been urged by Charcot in 1873 that certain lesions of the spinal cord, primarily developed outside the posterior columns, might at a given moment invade these at a variable height, and produce accidentally, as it were, some symptoms of locomotor ataxy; but this, he went on to say, was not truly progressive locomotor ataxy.

More recently Dr. Gowers, in an able paper read before the British Medical Association in 1878,[3] pointed out that it was common for an acute change, as e.g., primary myelitis, which had extended widely through the section of the cord, to clear off from all except the posterior columns, and to persist in these. In such cases a weakness of the legs of sudden onset would give place to incoördination of movement, and this would increase so as to present the typical features of locomotor ataxy. Eliminating such cases as these, of secondary origin, he thought that nearly one-half of ataxics had a history of antecedent syphilis.

I do not know that I am disposed to draw a very hard-and-fast line between tabes supposed to be of primary origin and that which is secondary to acute changes. It is certain that in inquiring into the history of many cases which, when they come before us, present all the characteristics of typical tabes dorsalis, we frequently hear a description of symptoms, often long past, which can only be referred to the occurrence of spinal meningitis, usually of a slight and strictly localised character. The fact that some slight thickening of the soft membranes and adhesion to the posterior surface of the cord is commonly met with in post-mortem examination of tabetic cases is well recognised. Vulpian, who was at first disposed to think that this meningitis might be primary, has rejected the idea, because the change is not proportionate to the amount of lesion in the posterior columns, and he now attributes it to a propagation into the membrane of the irritative action going on in the neuroglia. But it is not disproved that initiatory inflammation of the pia mater might spread itself by continuity to the neuroglia. There may possibly be anatomical reasons connected with the disposition of bloodvessels which would explain the confinement of the inflammation which had thus been started to a certain locality of the cord. I am inclined to think also, from certain observations, that a limited spinal meningitis may clear off without leaving traces perceptible to the naked eye in the portion of membrane which has been affected.

In the early part of his history Fredk. J—— had very severe pain in the mid-dorsal region. He could not bend his back without severe pain—a symptom strongly suggestive of meningitis. There was a clear account of a chancre six years before the commencement of his symptoms.

In 1870 I saw a gentleman, aged fifty-eight, who was typically ataxic. He had what he described as "a tremendous sensation of a cord around his waist." There had been constant pain in the back and right side of the spine about the level of the lower dorsal vertebræ for two years, and he frequently suffered from what he called "spasms" in the right hypochondrium. There was a distinct history of syphilis.

I examined, in 1880, a gentleman, aged thirty-three, who had suffered for fifteen months from "a grinding, aching feeling from the left side of the spine to the pit of the stomach." He could walk and had not lost much power in his legs. It was for this strictly localised pain that he sought advice, but examination showed that he was suffering from tabes, and a year later he came to me with paralysis of the left oculo-motor nerve. There was history of syphilis of eleven years' standing.

Such examples could be readily multiplied to almost any extent. They can hardly be explained, I think, except by

[1] THE LANCET, March 11th, 1871.
[2] Clinical Aspects of Syphilitic Nervous Affections, 1873-74.
[3] Syphilitic Neuroses, Brit. Med. Journ., March 1st, 1879.

the existence of a transverse and limited inflammatory lesion about the spot indicated, involving either the membranes and posterior roots or the surface of the cord, or both.

The feeling of "waist constriction" which we frequently meet with in tabes is evidently not a necessary part of those symptoms which are referable to that which is the essential lesion in the di-ease—viz., systematic sclerosis of the postero-external columns. If it were, we should find it in all cases. It is a symptom which is probably dependent upon a transversely localised lesion (meningitic or myelitic), and hence a common accompaniment of paraplegia. The following case appears to me to have an important bearing on the question:—

In February, 1875, I saw in consultation H——, a man, aged forty-five, who was suffering from paralysis of the left oculo-motor nerve, involving the eyelid as well as the recti muscles. Five years previously he had a chancre, which was followed by sore-throat. I found somewhat large almond-shaped glands in his groin. Under iodide and mercury the paralysis of the third nerve rapidly cleared up. But in July of the same year his medical attendant asked me to see him again, and I found him in bed almost completely paraplegic. There was very little power indeed of flexing the thighs upon the hips when I pressed lightly upon his knees as he lay in bed. When the spinal column was pressed upon deeply between the fourth and seventh dorsal vertebræ an obscurely painful numbed feeling was complained of. Below this the trunk and extremities showed incomplete cutaneous anæsthesia. Movement of the spine, as, for instance, when he turned in bed, caused pain at the part of the dorsal spine described, and radiating from it. He complained of startings of his legs, his bladder and rectum were weakened, and there was occasional incontinence of urine. Sexual power was in complete abeyance. Under mercurial treatment he gradually recovered the power of his legs to a great extent, and went away to the seaside.

In November, 1877, I saw him again. His right oculo-motor nerve had then been paralysed for four days past, and he had very severe neuralgic pain in the forehead for a month. His grasp was equal, and there was fair power in his legs, so that he was able to walk about, but his gait was somewhat tottering. There was some tenderness on pressing upon the seventh dorsal vertebra. The sphincters were weak. Under iodide he lost the paralysis of the right third nerve in a month.

The last time I saw this patient was in October, 1878. He told me that six weeks previously he had been severely attacked with darting pains in his legs, momentary, as if a blunt object had been pushed into him. For some time before this, but how long I could not ascertain, he had suffered occasionally from pains of the character described, but not so severely. His gait was now distinctly ataxic. There was anæsthesia from the knees downwards. He could not stand with his eyes shut, and in bed did not know where his legs were. There was now also diplopia from weakness of the left external rectus muscle. The pupils were contracted. The ophthalmoscope showed greyness of the left optic disc. The patellar tendon-reflex was absent in both knees.

Such a case as this in its developed form is not distinguishable by any peculiarities from an ordinary example of tabes dorsalis. Yet it had manifestly travelled to this condition through a phase of meningo-myelitis. It is interesting to contrast this patient's almost total inability to use his lower extremities in July, 1875, with the fair power and capacity for walking about which he showed in 1878. There would seem to be little doubt that the lesion (meningitis?) which had caused the earlier symptoms had cleared off, leaving behind a state of spinal cord which gives distinct evidence of the existence of sclerosis in the postero-external columns. Does it not suggest itself as probable that the inflammatory action may have travelled into the connective tissue of the cord through the channel of the inflamed pia mater? I cannot help thinking that in some cases the initial lesion may prove to be a very limited inflammation of the soft membranes of the cord which "lights up," as it were, inflammation in the adjacent connective tissue and leads to sclerosis. It must be allowed, however, that in many cases the most careful questioning elicits no evidence of there having been even a very little spinal meningitis. In such instances the suggested explanation is inadmissible.

We have had in the hospital recently a case which bears upon this subject, and may be shortly related.

Mary Anne A——, aged forty-four, was admitted into the hospital suffering from paraplegia. She could just move the right foot, but with this exception the limbs were powerless. There was also complete anæsthesia to touch and pin-pricks throughout the lower limbs, together with great wasting and entire loss of muscular sense in them. She had incontinence of urine and fæces. On the trunk the anæsthesia extended up to the second rib. Her arms were thin. She was just able to feed herself with a spoon, but not to dress herself. There was great want of coördination in the movements of both arms and hands when she offered to take hold of anything. But beyond this there were fine and somewhat constant flexion and extension movements of the intrinsic muscles of the left hand. The condition was practically one of complete paralysis of the lower extremities with ataxy of the upper limbs. She had acute bedsores which resisted all efforts to restrain their course. Death took place six months after admission.

Now, this patient was married and had given birth to nine children, of whom only three survived, five having died in convulsions and one being stillborn. One child had a rash over its body. The patient had suffered from ulcerated sore-throat, and her hair had fallen out. There is no doubt that she suffered from syphilis. The mode in which her illness commenced is important. A year before she came to the hospital she began to have constant aching in her legs like rheumatism, with "dreadful pricking and shooting in them," severe pain between her shoulders, and daily vomiting. After a few months, the pains in the legs being very bad, she completely and somewhat suddenly lost power, first in one and a week after in the other leg. Numbness now rapidly spread from the right to the left leg, and then to the trunk. At the same time the action of the sphincters could not be restrained, and she lost the power of coördinating the upper extremities.

The autopsy in this case showed no change in the spinal membranes perceptible to the naked eye, but there was distinct grey degeneration of the posterior columns, which examination of sections of hardened cord was found to confirm. (Imperfections in the preparation of the sections prevented so minute an examination as would have been desirable. However, Dr. Bevan Lewis, who kindly examined the slides at my request, is able to report the following appearances.)

In all regions alike the columns of Türck and the antero-lateral columns were healthy; the posterior columns throughout showed extensive degeneration. In the cervical enlargement the columns of Goll were much degenerated, and the same lesion appeared notably behind the posterior commissure and along both the radicular zones. In the post-commissural zone the medullated fibres were greatly wasted. Along the radicular zones a few very large fibres were seen. The root fibres of the posterior spinal nerves were evidently affected; they could be traced a short distance only, and were encroached upon by sclerosed tracts. The medullated fibres along the posterior margin of the cord were unusually large, the vessels coarse, and in many cases the perivascular channels widely distended and filled with coagulated (albuminous?) contents. In the upper cervical region the posterior cornua were sclerosed, the nuclei numerous, the cells rounded and devoid of processes on one side of the cord. The cells on this side were also much smaller and more attenuated than those of the opposite side. The columns of Goll showed several hypertrophied axis-cylinders. The outer group of cells in the anterior cornu of one side presented decided wasting and attenuation of its cells. In the cervico-dorsal region the anterior cornua showed disease of the outer group of cells; these cells were rounded and devoid of processes. In the lumbar cord there was much atrophy of cells of the anterior cornua, especially on one side, and the anterior nerve-roots appeared diseased.

The hypothesis which is admitted by Vulpian[4] as the most probable is that in the sclerosis of tabes it is the nervous element proper contained in the nerve-tubes which is first affected by an irritative lesion, and that the connective tissue suffers secondarily. The difficulty of accepting this view is to my mind very great. One cannot conceive an atrophy of axis-cylinders without some antecedent changes in the carriers of trophic material for the axis-cylinders—i.e., in the blood-vessels and the tissue in which they lie. On the other hand, if a vascular change be the initiatory step, it does not seem difficult to understand that syphilis, which is prone to occasion meningitis, may sometimes lead to sclerosis through inflammation of the soft membranes of the spinal cord.

[4] Maladies du Système Nerveux, Paris, 1878, p. 444.

A few words as to the frequency of association of a syphilitic history in cases of tabes. Erb, in a recent publication,[5] says that out of forty-four cases he had met with a history of syphilis in twenty-seven. Out of fifty-three cases of my own a probable history of syphilis is noted in twenty-five, but I have reason to think that this figure may not accurately represent the actual proportion, my notes of several of the cases being imperfect. Now, if we add together the statistics of Fournier, Erb, and myself, we shall find that in seventy-six out of 127, or in 59·8 per cent., there was a history of syphilis.[6]

It is clear that coincidence is not sufficient of itself to establish anything like a necessary relation. It might turn out, for example, that a relation of the following kind existed:—Tabes dorsalis was formerly supposed to be due to sexual excesses; the individual addicted to sexual excess would be, *cæteris paribus*, more exposed than another to the chance of syphilitic infection, and the misfortune attributed to the latter might really be due to the former. I do not support this view; on the contrary, I do not think there is any ground for believing that sexual excess is, at all events, a frequent antecedent of tabes, but I mention it as an illustration of one mode in which there might be a coincidence in the occurrence of syphilis and tabes without any real association of cause and effect. There may be others.

It is necessary also to bear in mind another very possible source of fallacy. There is often great difficulty in ascertaining the date of the earliest symptoms of tabes. There may have been some slight flying pains which have left little or no mark in the recollection of the patient, and in nine cases out of ten have been set down by him to rheumatism. Yet these pains, usually the earliest evidences of tabes, may have occurred *before* he became infected with syphilis. In the case of a gentleman whom I have at present under occasional observation there were neuralgic pains in the *head* some years before he acquired syphilis. Who knows whether these did not depend upon sclerosis of the deep root of the fifth nerve, as is probably the case in the patients whom I showed at a recent lecture? On this account I do not think my statistics are to be depended on as showing with any certainty the proportion of cases in which syphilis was acquired *before* the earliest symptoms of ataxy, and it is evident that the same objection may possibly apply to the figures collected by others. The discovery made by Westphal that absence of patellar tendon-reflex is a very early symptom of tabes will help us greatly in the future in regard to this subject, but it necessarily throws no light upon the date of origin of those cases the notes of which were taken before his all-important observation became common knowledge.

The position of tabes in regard to syphilis is peculiar in another respect. Affections of the nervous system which owe their origin to syphilis are not, as such, distinguishable in any very evident manner from diseases unconnected with such infection. The hemiplegia which results from thrombosis of a cerebral artery affected with syphilitic disease follows the same course as hemiplegia consequent on thrombosis of a cerebral artery thickened by atheroma. Syphilitic new formations in connective tissue bring about symptoms depending on lesion of nervous structure, such as might be referable to growths of any other kind. But there are two points especially which frequently afford strong presumptive evidence as to the syphilitic nature of a certain affection. In the case of lesions referable to thrombosis of a cerebral artery there is the age of the patient. Should this be much below that at which degenerative changes may be reasonably looked for in the arterial system, there being at the same time no evidence of changes in the heart or kidneys, I think we may almost certainly refer the arterial thickening to syphilis. So also in regard to growths. As a matter of experience, it is certain that almost all cases of marked paralysis of single cranial nerves (I exclude here the incomplete and transitory paralysis seen in tabes) are due to syphilis. When along with this are conjoined symptoms which can only be referred to the existence of another distinct lesion (one causing—e.g., hemiplegia, monoplegia, or paraplegia), the evidence is greatly strengthened. It becomes, indeed, so strong, and the chance of exception due to the presence of tubercle or cancer is practically so small, that, in the absence of the strongest corroborative evidence of the latter diseases, we should be culpable in treating the case otherwise than as one of syphilis.

But in tabes the circumstances are very different. Take, for example, the question of age. If we compare the ages of tabetic patients in whom inquiry elicits a history of syphilis with those in which this element is wanting, we are not struck by any marked contrast. When we meet with the case of a young man of twenty or thirty years of age who has hemiplegia apparently resulting from cerebral thrombosis, and in whom there is no history of rheumatic fever, heart or kidney disease, we know at once that his disease is almost certainly the result of syphilis. We are struck by the fact that he is suffering from an affection brought about by disease of his cerebral arteries. The more ordinary cause of such disease is the atheromatous thickening which comes in association with other degenerative changes brought about by agedness. Syphilis induces changes in the arterial coats, which lead to a precisely similar result. The indications are simple enough. But in tabes we are left without aid from this question of age. The disease is one commonly of adult life, which most often commences, so far as we can judge, in the period between maturity and middle age, and whether there is a history of syphilis or not, the large majority of patients are about this time of life.

There remains the question of sex, consideration of which may help us a little. My personal experience is that only 10 out of 100 patients suffering from tabes belong to the female sex. Gowers thus refers to this point:—"Whatever it is which determines the occurrence of locomotor ataxy in men and very rarely in women, and which must be regarded as one of the causes of ataxy, operates in conjunction with syphilis in confining the syphilitic ataxy also to men. Other consequences of syphilis occur in women as well as in men; ataxy in men almost exclusively."[7] Some years ago, in view of a coming discussion on syphilis at the Pathological Society, I tabulated 100 cases of disease of the nervous system dependent, so far as could be determined, upon syphilis. From this list all cases of tabes were excluded. Sixteen out of the 100 patients were females, but I have since had reason to think that the proportion of females affected with disease of the nervous system consequent upon syphilis is far greater than this. Again, the occurrence of tabes in females of good social standing is surely of extraordinary rarity.[8] Are females of this class equally exempt from syphilitic affections of the nervous system of a kind which is generally recognised? I am sure that they are not, and that in this respect there is a very striking contrast.

If tabes be very frequently of syphilitic origin, how is it that females, who bear their fair share of other diseases of the nervous system of specific origin, furnish only ten per cent. to the ranks of the former disease?

Whilst it appears to me incontestable that there is a remarkable frequency of association between syphilis and tabes dorsalis, I do not think, all things being considered, that the time has yet arrived for us to draw safe inferences as to the precise nature of the relation.

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[5] Deutsch. Archiv f. klin. Medicine, xxiv. Bd.

[6] Since the substance of this lecture was delivered (December 18th, 1879) a very large amount of attention has been bestowed by numerous writers, both in this country and abroad, upon the statistics of this question. Amongst others, Erb, Gowers, Hughlings-Jackson, Westphal, and Althaus have made important contributions to our knowledge. For a very good *résumé* of the varied experiences and opinions upon the subject, the reader is referred to an article by Dr. J. L. Prevost, in the "Revue Médicale de la Suisse Romande," January 15th, 1882. As regards my own figures up to the present date, I find that out of one hundred cases of tabes there is some history of venereal disorder in forty-five. In many, I need hardly say, the history of constitutional syphilis is perfectly clear. In several, on the other hand, it is so imperfect that were it not for one's experience of the extremely weak history, which is often all that can be obtained in other diseases of the nervous system undoubtedly due to syphilis, I should be disposed to reject them. In some, again, the investigation was either precluded by circumstances, or accidentally omitted. In others the information obtained could not be depended upon. Reserve must be shown, therefore, in accepting my statistics as representing anything more than an approach to probability. I cannot help envying the certainty which has apparently attended the experience of some of those who have published upon this subject.

[7] Loc. cit.

[8] Out of 100 cases of tabes of which I have notes only three occurred in ladies. It has a significant bearing on the question under discussion that two of these are single women, in whose cases the idea of a specific cause may be dismissed.

ROYAL HOSPITAL FOR CHILDREN AND WOMEN.—Mr. Henry Irving and Miss Ellen Terry have kindly consented to take part in a dramatic *matinée*, in aid of the funds of the Royal Hospital for Children and Women, Waterloo-bridge-road, on Wednesday, July 5th, at Willis's Rooms.

RUPTURE OF THE URINARY BLADDER.

BY WALTER RIVINGTON, F.R.C.S. ENG.,
SURGEON TO THE LONDON HOSPITAL.

PART I.

CASES, GENERAL CONSIDERATIONS, AND CAUSES.

(*Continued from page 905.*)

CASE 4.—This is a case of peculiar interest, and stands almost alone amongst reported instances of ruptured bladder. The viscus was empty, the rupture being neither complicated with nor caused by a fracture of the pelvis. The history is as follows.

W. S——, aged thirty-three, was admitted into the London Hospital on Nov. 21st, 1875. A light cart had passed over his abdomen. After the accident he could not walk. He had incontinence of urine, and passed blood with it. On admission he was not in a state of collapse. Neither increased mobility nor crepitus could be detected on examining the pelvis. Bloody urine dribbled away. A large catheter was passed and drew off more, the urine being expelled with some force. Blood in considerable quantity was uniformly mixed with the urine. No pain attended either the act of micturition or the passage of the catheter. The pulse was fairly strong, and the temperature 100·4°.

This was the history given to me when I saw the case on the following day, and I at once inquired into the condition of the bladder at the time of the accident, and elicited the important fact that the patient had passed his usual quantity of urine a few minutes before the accident occurred, so that evidently the bladder had been empty at the time. The patient had vomited, but only once on the preceding evening, at 8 P.M. He had taken and retained some beef-tea and milk. He complained of pain across the lower part of the abdomen below the umbilicus, and there was tenderness when pressure was made with the finger on the prostate and base of the bladder; there was also tenderness on pressure in the posterior portion of the left lumbar and in the right iliac regions. The patient was not troubled with any constant desire to micturate. Was the bladder ruptured? My house-surgeon, Mr. Boase, had arrived at the conclusion that it was, and expressed his opinion to me to that effect. But then came the inquiry, If the bladder was ruptured, on which I could not myself pronounce at once an absolute opinion on account of its empty condition at the time of the accident, and the unusual symptom of incontinence of urine, &c., what was the position of the rupture? Evidently, as I observed, not through the peritoneum in the usual position at the upper and back part of the bladder. The empty state of the bladder, the quantity of urine passed since the accident, and the symptoms as a whole negatived that. If ruptured at all, the rent, I said, must be near the neck, in such a position that the urine could gravitate into the bladder, or the case might be really a ruptured urethra. In the absence of any appearance of extravasation of urine, it seemed advisable to wait a few hours until there was some more decided indication for interference, watching the patient carefully in the meantime. The exact mechanism of the possible lesion was not clear to me, but no doubt existed in my mind that, if the bladder had been torn, the injury must have been accompanied with great laceration and bruising of the pelvic fasciæ, &c., and considerable extravasation of blood, constituting of themselves grave conditions likely to prove fatal.

On the following day I found that the quantity of water which had been drawn off was only six ounces, and that there was an extending blush on the lower part of the abdomen, uniform on both sides. Feeling now convinced that there was a laceration at the neck of the bladder, through which effused urine had been able to return into the viscus, I was about to undertake an exploratory operation above the pubes; but on examining the patient I found that he was sinking fast. His pulse was extremely feeble, his face yellow and sunken, and his voice and extremities cold. It was therefore useless to interfere, for he might have died during the operation. He lived but a few hours longer. At the post-mortem examination it was found that the peritoneum had been dragged back from its attachment to the anterior abdominal wall, and had probably carried the bladder with it, causing the laceration just above the prostate gland. Blood and urine were extravasated freely.

Each of the four instances which I have related may be regarded as representative of a distinct group of cases of ruptured bladder. The first case belongs to the group of simple or uncomplicated ruptures into the peritoneal cavity; the second to the group of intra-peritoneal ruptures, complicated with dislocation or fracture of the pelvis; the third and fourth to the division of extra-peritoneal ruptures; the third belonging to the group of ruptures associated with, and often caused by, fracture of the pelvic bones; and the fourth to the group which is free from complications of the kind. Adding these four cases and one recently under Mr. Hutchinson at the London Hospital to my list, I obtain a total grouped as follows:—

1. Simple intra-peritoneal ruptures	105
2. Complicated intra-peritoneal ruptures...	24
3. Extra-peritoneal ruptures, simple and complicated ...	60
4. Intra-uterine ruptures in the fœtus (about)	5
5. Reported cases of recovery, genuine or otherwise ...	25
6. Ruptures of uncertain position (about)	6
Total	225

In a few cases there was more than one rent in the bladder, and where an intra- and an extra-peritoneal rent were combined I have reckoned the case as belonging to the intra-peritoneal group. Undoubtedly of the four groups into which the cases of ruptured bladder naturally fall, the first, or that comprising the uncomplicated intra-peritoneal ruptures, possesses the greatest interest for the surgeon. The treatment of extra-peritoneal rupture resolves itself, perhaps, in the main, into the treatment of extravasation of urine; and when the grave lesion of a ruptured bladder is complicated with dislocation or fracture, or rupture of some other viscus, the complication is apt to betoken an amount of violence and injury almost necessarily fatal. It is chiefly in the uncomplicated cases that the surgeon may entertain a hope that his measures may be attended with success, and more peculiar interest is attached to the intra-peritoneal ruptures from the fact that the best method of treatment has still to be determined. For these reasons I purpose to devote especial attention to the intra-peritoneal ruptures, premising some remarks which will apply to all the varieties.

1. Of fatal intra-peritoneal ruptures it will be seen that I have found 129 instances, and of fatal extra-peritoneal ruptures only sixty. Whether the intra peritoneal is really the more common form, or whether the cases have only been more frequently reported, is more than I can say. Certainly the simple intra-peritoneal rupture is far more frequent than the simple extra-peritoneal, the extra-peritoneal being more often associated with fracture of the pelvic bones, and capable under these circumstances of being produced when the bladder is not distended. Less than one-third of the sixty extra-peritoneal ruptures were uncomplicated with fracture or displacement, and in a few of these there was some other complication. It is remarkable, however, that out of a series of ten cases occurring at St. George's Hospital, and brought by Mr. Prescott Hewett before the Pathological Society, six should have been extra-peritoneal complicated with fracture or displacement of the pelvic bones, two simple extra-peritoneal, and two only intra-peritoneal, one of these being associated with extensive fracture. This would seem to point to the conclusion that the extra-peritoneal rupture is really the more common, but that it is so frequently the result or the accompaniment of other grave mischief of a hopeless nature that surgeons deem it useless and uninstructive to report the cases which occur in their practice.

2. Of 181 cases 159 were males and 22 females. The large proportion of males to females is in accordance with the differences of habit and occupation in the two sexes. The female is less frequently exposed to the accidents which beset the male; less frequently the victim to the pothouse orgies and brawls, so prolific of danger to men. Not content with this obvious explanation, Dr. Harrison attributed the immunity of the female to the greater size of the female pelvis, the cavity of which is not so extensively occupied by the bladder when full of urine. According to him the bladder does not incline so much backwards, but inclines forwards, and enlarges transversely. The uterus and its folds break the shock of violence and prevent direct concussion against the sacral promontory. The idea that concussion against the sacral promontory is a potent factor in deter-

mining rupture of the bladder is not tenable, as I shall have occasion to show, whilst Dr. Stephen Smith has pointed out that when Dr. Harrison wrote no case of rupture of the bladder in the female from external violence had occurred to him. Several instances have since been placed on record, some by Dublin surgeons. It is a popular anatomical notion that the bladder is more capacious in the female than in the male, but according to a statement in Quain, made on the authority of Henle and Luschka, the female bladder is decidedly smaller than the male, but of a different shape, being wider transversely but shorter from apex to base. If, then, the popular anatomy be wrong, the popular physiology of the female bladder, that it can hold more water and retain it longer than the male bladder, must also be wrong. M. Houel, for whose authority great respect must be entertained, affirms that the female micturates less frequently than the male.

3. A comparison of the ages of the fatal cases shows that rupture of the bladder occurs most frequently in the prime of life, in persons between twenty and forty years of age. Of the 141 patients, whose ages are given in my notes, five were under ten years of age, twelve between ten and twenty, thirty-five between twenty and thirty, forty-six between thirty and forty, twenty-four between forty and fifty, ten between fifty and sixty, five between sixty and seventy, and four between seventy and eighty. A good many more are simply described as adult males. All the patients above seventy were males; in all the bladder was ruptured into the peritoneal cavity, and the cause of the rupture was retention from obstruction in the urethra, either stricture or enlargement of the prostate. The cases of rupture affecting the fœtus in utero are not included in the above comparison.

4. With regard to the period of survival after the injury, it may be broadly stated that a patient with an extra-peritoneal rupture has a much better chance of recovery, and, other things being equal, is likely to live longer than a patient with an intra-peritoneal rupture. Thus, out of eighty-five fatal simple intra-peritoneal ruptures eight died within twenty-four hours, fifteen within two days, fifteen within three days, sixteen within four days, ten within five days, four within six days, five within seven days, five within eight days, one within nine days, whilst one lived twelve days (Anton Graw), one more than twelve days (Montagu), one fourteen days (Von Roonhuysen), two about fifteen days, (Ellis and *Gazette des Hôpitaux*), and one sixteen clear days (Crossley). Out of twenty-three fatal intra-peritoneal ruptures, complicated with dislocation or fracture of pelvis, &c., seven died within twenty-four hours, seven within forty-eight hours, three within three days, two within four days, one within six days (Rivington), two within seven days (Fano and A. Wernher), whilst one, a man of twenty-four, survived sixteen days in spite of having fallen from a window, and having sustained at the same time a fracture of the calcaneum and pubes (De Brantes). John Stone's case is omitted. On the other hand, of the forty-nine fatal extra-peritoneal ruptures five died within twenty-four hours, six within forty-eight hours, seven within three days, five within four days, four within five days, four within six days, one within seven days, one within eight days, one within nine days, two within ten days, three within twelve days, four within fourteen days, two within seventeen days, whilst one survived three weeks (Hoffmeister), one twenty-three days (Prescott Hewett), one twenty-five days (Clark), one forty-two days (Peaslee), and one forty-three days (Dickinson and Holmes). It is noticeable that all the four last and longest surviving cases were complicated with fracture. The comparison between the fatal intra- and extra-peritoneal cases may be put briefly thus:—Out of 108 intra-peritoneal cases twenty-five lived over five days, seven over ten days, and none over sixteen days. Out of forty-nine extra-peritoneal cases twenty-three lived over five days, fourteen over ten days, seven over sixteen days, four over three weeks, and two six weeks. The accompaniments of fracture and dislocation of the pelvis cannot be said of themselves to exercise much influence on the length of the survival.

5. The causes of rupture of the urinary bladder may be divided into predisposing conditions and determining causes. The main predisposing condition of the rupture of the bladder is distension of the organ with urine. For an uncomplicated intra-peritoneal rupture to occur I believe that it is almost essential that the bladder should be full. It may not be necessary for it to be completely distended, but it must have risen well above the pubes so as to present a sufficient surface, and a sufficient resistance to blows and pressure. M. Houel remarks that "all surgeons agree in saying that there is no rupture possible without repletion, except in utter smashes and perforation by fragments of bone." This statement must be modified in view of the fourth case which I have related, and in which an extra-peritoneal rupture of the bladder, immediately above the prostate gland, had been caused by the viscus being dragged backwards with the peritoneum when the cartwheel passed over the patient's abdomen. Parallel conditions will be found in the records of one or two of the extra-peritoneal ruptures in my collection. Take, for example, the case of a man, forty-six years of age, under the care of Mr. Hawkins,[1] at St. George's Hospital. He had been kicked in the belly by a horse five hours before admission, and lived fifty-eight hours. At the post-mortem examination the peritoneum was found stripped off the anterior wall of the abdomen as high as the umbilicus, and there was a laceration an inch long in the fore part of the bladder just below the reflexion of peritoneum. Again, in another case also brought forward by Mr. Prescott Hewett, and under the care of Mr. Tatum,[2] a similar condition was found. The patient was a man of fifty, who had been injured two days before admission by a man jumping on his abdomen. He lived twenty-three days, and at the post-mortem the peritoneum was found stripped off each iliac fossa, and parts in the neighbourhood of the bladder and walls of the abdomen, as high as the umbilicus. There was a rupture in the fore part of the bladder an inch long and half an inch deep. In the same category may be placed a case of M. Nivet's, adduced in Houel. A female, sixteen years of age, was pressed between a wall and a carriage. She lived forty-four hours, and a rupture of the bladder was found at the point of junction of the neck and the body. There were multiple fractures of the pelvis. In the absence of any note as to the state of the bladder in these cases at the time the injuries were received it is not possible to speak confidently; but in all the injuries were of a nature likely to act upon the bladder in a manner similar to the injury in my own case, whether the viscus happened to be nearly empty or partially occupied by urine.

On looking over the records of the simple intra-peritoneal ruptures I find distinct evidence of the bladder being full in fifty-three out of the 105 cases, in others the patient is described as drunk, whilst in the remainder nothing is said about the condition either of the patient or the bladder. In two the statements of the patients would lead to the inference that the bladder contained very little urine at the time of the rupture. Thus Mr. Cusack's[3] second patient, who fell 20 ft. from the battlement of a bridge into a garden, said, in reply to questions, that he had evacuated his water a short time before the accident; and Mr. Heath's[4] second patient, on whom he performed abdominal section, and who had received a severe blow from the elbow of one of his companions, with whom he had been "larking about," was quite sure that he passed water freely half an hour before the accident. If we are to place implicit reliance on these statements, in neither could the bladder have contained sufficient urine to accord with what is generally regarded as a necessary condition for an intra-peritoneal rupture. Mr. Heath's patient had drunk two pints of beer, whether after or before he made water is not stated, and it is probable that his estimate of the lapse of time is not to be relied on. This seems to be the best way out of the difficulty in both cases; for it is impossible to understand the mode of production of the ruptures unless the bladder had risen well above the pubes. Among the complicated intra-peritoneal ruptures, A. Wernher's[5] patient is stated to have passed his water half an hour before the accident. The complication was a fracture of the horizontal ramus of the pubes on the left side. The three foregoing cases do not weigh strongly with me against the mass of evidence on the other side; and I think it may be laid down that, with the exception of cases in which the bladder is wounded by broken pelvic bones or dragged away from its attachment, distension is a necessary antecedent to rupture. M. Houel and the writer of the article in THE LANCET already referred to place alcohol among the predisposing causes. "Alcohol," says the latter, "has a double influence in predisposing to this injury; for it causes an increased and rapid secretion of urine and quick distension of the bladder, and it also deadens the sensitiveness of its mucous membrane, and the call to micturate is so feeble that it is disregarded by the drunkard

[1] Trans. of Path. Soc., vol. ii. [2] Op. cit. [3] Op. cit.
[4] Op. cit. [5] See Max Bartels' paper.

and the distension allowed to increase." Certainly it is a sad fact that rupture, and particularly intra-peritoneal rupture, of the bladder is one of the penalties of drink. In thirty-nine out of the 105 cases of simple intra-peritoneal rupture it is distinctly specified or implied that the patients had been drinking alcoholic liquors freely or were actually drunk at the time of the accident. It did not escape M. Houel's observation that the lesion appeared to be much more common in England than in France or Germany. A second predisposing condition is the existence of some obstacle to the passage of urine from the bladder, such as stricture and hypertrophy of the prostate gland. A third condition, well described by M. Houel, and especially applicable to the small group of so-called spontaneous ruptures, is the presence of pouches of the mucous membrane passing out through intervals between the muscular fibres. Distension of the bladder destroys the elasticity of the muscular fibres and occasions their separation. This separation is not found equally over the organ, but is most considerable behind towards the bas fond at the level of the insertion of the ureters and at the summit of the bladder. The supplementary pouches were studied by M. Cruveilhier, who called them tunicated or tunicary herniæ. When large the pouches have been taken for multiple bladders.

In the female during labour the bladder is apt to become distended owing to the mechanical obstruction occasioned by the pressure of the head or some other prominent part of the child. Retroversion of the gravid uterus produces a similar effect.

(To be continued.)

NOTES ON

A CURIOUS CASE OF SUPPOSED SEPTIC INFECTION.

BY BRYAN C. WALLER, M.D., F.R.C.S. ED.,
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AT the present time, when the subject of septic infection from contact with certain animal matters is provoking a good deal of attention among physicians and pathologists, the following unusual and rather puzzling case appears to be of sufficient interest to warrant its being placed on record.

J. S——, dispensary patient, first came under my observation in May, 1880. He is a handsome, well-developed, and intelligent man, sixty-three years old; a widower, with five children living, all healthy; two having died, one of "water on the head" at the age of seven, the other at eighteen, of bronchitis. He has been employed for some years past in cutting up horses in a knacker's yard, and in cleaning the hides preparatory to tanning. He has an ill-nourished and cachectic appearance. The patient's previous history was good. He had always been a strong healthy man up to the date of his present illness. His habits are temperate, and his home surroundings favourable. He has been in receipt of good wages. Dietary plentiful and of good quality. The patient's family history is excellent, his father having lived to the age of sixty-five, while his mother was upwards of eighty; does not know of what disease they died. The patient complains of an extensive and obstinate eruption on the head, back, and elbows, attended with but little itching or other inconvenience, which first showed itself about six months previously. Has had one or two painful boils on the back and arms. Has been under treatment for four or five months at a public hospital, with no benefit. Suffers from headaches and dimness of sight. Appetite bad; says he has no relish for his food. Is becoming very weak, and has latterly been unable to pursue his occupation. Is afraid he has contracted some "smittle" from the diseased carcases and putrid hides, which it was his business to cut up and dress. Thinks he may have contracted the infection by scratching his head with unwashed hands, as the eruption showed itself first on the head. Does not remember to have had any cut or abrasion on his fingers or arms. Has been steadily growing worse, and is somewhat uneasy in his mind, as he has known of one or two bad cases among his fellow-workmen which he attributes to similar causes.

Condition at the time of examination.—The whole of the back, from the shoulders to the loins, is covered with a continuous eruption, presenting the characteristics of diffuse psoriasis. A similar eruption is visible on the scalp, especially in the occipital region. On the right side of the back of the neck, and under the angle of the right scapula, are the scars of recent boils. The right elbow is also affected by the eruption. The patches of eruption are covered with altered epidermic scales, slightly elevated, and somewhat copper-coloured. The skin of the other parts of the body is dry and harsh to the touch. Axilla temperature 99°; pulse 88, moderately full, but of low tension; heart and lungs normal; tongue dry and foul; breath somewhat fetid; bowels confined; urine rather scanty, high-coloured, loaded with urates, no sugar or albumen. A provisional diagnosis of ordinary psoriasis of a severe type was arrived at. Arsenic, in the form of five-minim doses of Fowler's solution thrice daily, was ordered, in combination with quinine, together with tablespoonful doses of cod-liver oil, twice or thrice a day. The skin eruption to be dressed with boracic ointment, the head to be washed thrice a day with coal-tar soap, the lather being allowed to dry on.

This treatment was continued till the end of July, and was attended with marked improvement. The eruption on the back and elbows entirely disappeared, while that on the scalp became very much better. The patient considered himself practically cured, and though still weak, said he "felt nearly all right." Pulse 75, fuller and stronger; temperature normal. Urine normal in quantity and character. Ordered to take the arsenical mixture only once a day; cod-liver oil to be continued; to go to the country for a month or six weeks.

From the beginning of August to the end of October I was off dispensary duty, and saw no more of the patient. On Nov. 2nd, however, he returned in a deplorable condition; as he entered the room I remarked to a student, "That looks like a case of pyæmia." The man's own account of himself during the three months' interval was as follows:—In the beginning of August he had, in pursuance of my directions, gone on a month's visit to some friends in the Grampian Hills. During that time he continued well, and seemed to be gaining strength. He returned to town about the end of the month, when he rapidly became worse, the eruption reappearing on his head and back. He attended at the dispensary for the purpose of again consulting me, but on hearing of my absence went to another doctor.

Under this gentleman the plan of treatment was entirely changed. The arsenical mixture, boracic ointment, and cod-liver oil were discontinued, much to the patient's dissatisfaction, as the benefit he had already received was sufficient to cause him to place great reliance on these remedies. He received instead some other mixture, the nature of which I could never discover. This did him no good, and after continuing it for a month he determined to take no more of it, but to await my return at the end of October. During that month he had no medicine, save cod-liver oil, to which he had returned in pursuance of his own judgment. Latterly he had had several rigors, and was, to use his own phrase, bursting out all over with boils.

On examination I was inclined to take a very serious view of his case. His features were sharp and haggard, the expression of his countenance indicated great anxiety; his skin had a yellow faded appearance, and was bathed in a cold perspiration. The eruption had partly returned upon the back, shoulders, and head; its character, however, was altered, especially on the head, where it had assumed an ugly papular and pustular form. An intensely painful boil as large as a billiard ball had formed and burst in the left occipital region, and was discharging large quantities of thin ichorous pus. Near it was another hard painful swelling about the size of a hazel nut; around both of these was an area of suspicious erythematous redness. Patient said he had had no sleep for eight nights from the pain of the swellings. The pulse was 127, small, wiry, and somewhat irregular. Axilla temperature 102°. At the base of the right lung there was some dulness with a few crepitant râles; the number of respirations was increased, and the patient suffered from great dyspnœa with cough and occasional hiccough; the breath had the new-mown hay smell characteristic of pyæmic conditions. The tongue was brown, dry, and cracked; there was excessive thirst, and some sickness; the bowels were rather loose, and the dejections offensive. The conjunctivæ were yellow, as in a mild attack of jaundice, and there was some swelling and tenderness about the left elbow. The man could scarcely stand, and tottered as he walked, supporting himself with two sticks. He complained of great dimness of sight and

splitting headache. The urine was scanty, high-coloured, and loaded with urates; chlorides slightly diminished, no sugar, no albumen. A careful microscopical examination of the blood and urine was attended with merely negative results. The patient's statements were hurried and somewhat incoherent. He kept up an occasional low moaning, and said he could not endure the pain of the boil on his head much longer. There was evidently great nervous disturbance, with some confusion of intellect; from time to time there were a few convulsive movements of the hands and fingers, with slight general shivering. In the face of these symptoms I could not but conclude that I had to deal with a case of septic poisoning. The patient was advised to seek admission to a public hospital, but would not hear of it on being told that he would no longer be under the care of his present attendant. He was then instructed to go home and retire to bed immediately, to cover himself with warm blankets, and to apply hot mustard cloths to the epigastrium; a draught containing twenty grains of chloral to be taken immediately, and to be repeated every two hours till sleep was induced; a diet of strong soup, with a tablespoonful of good whisky, was enjoined, the thirst to be allayed with an iced mixture of fresh milk and effervescing lime-water. Directions were given as to the thorough ventilation of the apartment he occupied, and a mixture containing quinine and iron was ordered thrice daily. The boil on the head to be poulticed with charcoal poultices, and the eruption on the back to be again treated with boracic ointment. Though I did not, of course, express my opinion, I must candidly own that I entertained but little hope of my patient's recovery. Nevertheless, I was agreeably disappointed. For three weeks he hung between life and death; but at the end of that time, thanks to his originally fine constitution, he began to improve. The countenance became calmer, the yellow cachectic appearance began to pass off, the peculiar pyæmic odour of the breath disappeared, the suppurating boil on the head assumed a cleaner aspect and began to discharge healthy pus; the hard lump in its vicinity, which seemed to threaten another boil, grew smaller and finally vanished. Abundance of nourishing food, with an imperial pint of good London stout, divided into three equal portions, was ordered daily; the quinine and iron were continued, and the arsenical mixture again resumed.

Condition on March 31st, 1881.—Still under treatment; slowly gaining strength; appearance much improved, the colour of the skin being nearly normal, and the cachectic look having almost disappeared. The boil on the head is slowly healing, and discharges only a small quantity of healthy pus; there is very little eruption on the body and head, but every two or three days several small discrete red papular elevations generally make their appearance on the chest, legs, and arms. These spots cause a slight sensation of heat, but no itching, and fade in the course of a week or less, leaving behind a slight transient brown mark. Pulse 77, regular, fairly full, but of low tension; tongue flabby, anæmic, indented at the edges, and slightly glazed from the action of the arsenic; appetite improving, bowels regular, conjunctivæ slightly congested; says he feels "a heap better," and expresses much gratitude. The arsenical mixture to be temporarily discontinued.

Condition on Nov. 11th, 1881.—Patient is much improved in every respect. He now only complains of weakness, want of appetite, and slight return of the eruption on the back, arms, and legs, whenever the arsenical mixture is discontinued for a longer period than a week or a fortnight at a time. Ordered tablespoonful doses of maltine with pepsine and pancreatine thrice daily; the arsenical mixture to be taken only once a day; quinine and iron mixture to be continued.

From November up to the present date the patient has continued to visit me occasionally. In January, 1882, he caught a bad cold, which was followed by a slight return of the eruption on the back. This, however, speedily succumbed to the influence of the arsenical mixture taken thrice daily, with local applications of boracic ointment. Since then his improvement has been steady, though the eruption still manifests a tendency to recur, whenever an attempt is made to discontinue the arsenic permanently. He was last seen on Friday, the 10th of March. He still takes the quinine and iron, and the maltine regularly. The arsenical mixture is also taken once a day, but discontinued every alternate fortnight. His skin is perfectly free from eruption, and save for a considerable amount of weakness and inability to undertake any prolonged exertion, he is now practically well. About a fortnight before, he had seen a few spots of eruption on the back, which disappeared almost immediately on his resuming the arsenic.

Remarks.—The interest of the foregoing case lies principally in the obscure nature of the morbid condition. For six months there was nothing in the patient's symptoms to suggest the presence of anything more than ordinary non-syphilitic psoriasis. The marked control exercised upon the eruption by the arsenic served also to confirm this primary diagnosis. But at the end of this time, the occurrence of pyæmic symptoms during a temporary cessation of treatment, without exposure to any fresh source of infection, is sufficiently remarkable, and still more so when we consider the negative character of the careful microscopic examinations of the blood and urine. The pyæmic attack, the eruptions of boils, and especially the suspicious appearance of the large one on the head, which refused to heal for upwards of six months, seem, when taken in conjunction with the patient's history, to afford some warrant for the idea of septic infection. But the tardy development of septic symptoms, the absence of organisms in the blood and urine, and the remarkable benefit derived from the administration of arsenic, introduce elements of uncertainty which should not be lost sight of. Taking everything into consideration, I am disposed to think that the balance of evidence inclines in the former direction, though the whole history of the case is in many points exceptional. It is hard to explain the delay in the appearance of the pyæmic or septicæmic indications, except on the hypothesis that the virus had for a time remained semi-dormant, manifesting its presence only by cutaneous eruptions, and had then awakened to its full vitality after an incubation of nearly a whole year. This fact, if fact it be, is without parallel, at least so far as my experience extends.

Should the man continue to remain under observation, I shall endeavour to report any further interesting or exceptional circumstances in the progress of the case. Whatever the cause of the symptoms, it has not, I fear, entirely ceased to operate, as shown by the threatened return of the eruption whenever an attempt is made to dispense with the arsenic finally, though there is every reason to hope that its virulence has much abated, and that time and care may suffice to compass its complete removal.

ON A CASE OF

EXCISION OF THE TONGUE WITH A LARGE PORTION OF LOWER JAW AND FLOOR OF MOUTH FOR EPITHELIOMA;

RECOVERY, WITH REMARKS ON THE OPERATION AND AFTER-TREATMENT.

BY BENNETT MAY, B.S., F.R.C.S.,
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IN recording this case, I wish particularly to describe a mode of operation for the removal of a larger extent of disease than is generally considered within the range of operative measures, and by which I was enabled to remove in one mass the tongue, with a large piece of the lower jaw, and the intervening tissues of the floor of the mouth.

In a recent contribution on the subject of cancer of the tongue,[1] Mr. Jonathan Hutchinson makes an impressive appeal for early operation, recalling our attention to the manner in which very valuable time is lost whilst the surgeon is maturing his judgment as to the true nature of the disease; but in spite of his weighty arguments, I believe that surgeons will not generally urge, nor will patients accept, any operation for the removal of a considerable portion of the tongue until the otherwise hopeless and necessarily fatal character of the disease is to their minds clearly established, and this because of the dreaded and still very fatal character of the operation to be undergone. Consequently in many cases, when the subject of an operation has at last to be faced, the surgeon has to decide the questions, Is it too late? or, Are the limits of disease such as to exclude a satisfactory operation? And these questions have to be asked of many cases in which there has been no delay in establishing a diagnosis. It is a notable circumstance that the facility or epoch of

[1] Clinical Lectures, London Hospital, January, 1882.

lymphatic infection varies greatly in different cases, being influenced largely by the primary locality of the disease and the anatomical distribution of the lymphatics. It has appeared to me to occur particularly early where the under surface of the tongue is invaded, and also where the disease has originated in, or spread to, the floor of the mouth. Cancer in this latter region materially complicates the question of operation, and unless very limited in extent is often considered a bar to its performance. I believe, however, that the limits of what is justifiable or possible in this direction have been considerably extended of late.

Mr. Walter Whitehead records a case[2] in which he removed the tongue along with the floor of the mouth and submaxillary and sublingual glands by the use of scissors, and the same authority tells us that where the floor of the mouth is extensively diseased Billroth is accustomed to detach the gum and periosteum from the inner side of the jaw by the aid of a rasp. With what ultimate results these operations have met I do not know. It is true the gum and periosteum are more loosely adherent to the inner aspect of the jaw than to the outer, and may be detached without much difficulty down to the mylo-hyoid ridge, but in a case of extensive and close adhesion of cancerous infiltration to the bone any operation of this kind would certainly be incomplete and therefore unsatisfactory. At any rate, I do not think it can compare in efficiency with that I am about to describe.

G. D——, an artisan, aged forty-two, became an inmate of the Queen's Hospital on November 10th, 1881. He was suffering from an indurated fetid ulceration, which occupied the greater portion of the floor of the mouth. On the left side it reached as far back as the last molar tooth, but on the right to a less extent, about an inch outside the median line. It was closely adherent to the inner aspect of the lower jaw, and invaded the under surface and body of the tongue, so that this organ was firmly bound down, and its movements were rendered painful and difficult. There was profuse salivation, with very imperfect articulation. To his knowledge it was only of five weeks' duration, and he ascribed its origin to the use of a pipe with a dirty brass mouthpiece he had been smoking a week or two previously. Although so recent there was already a good deal of diffused induration and tenderness below the jaw, and three or four small kernels could be separately felt there. He was emaciating rapidly, and presented one of the most distressing cases of this painful affection that I have ever seen. He wished something done for his relief, and I contemplated section of the gustatory nerves until it occurred to me that the removal of the whole mass was quite practicable, and on Nov. 14th this was effected in the following way.

I selected chloroform as the agent most manageable in these prolonged operations on the mouth and air-passages, but from the outset he took it very badly, and before even the first stage of the operation was entered upon he had to be brought round by artificial respiration. I therefore abandoned that agent for ether, and had the patient brought into a half-sitting position with the head and shoulders forward. I found this posture, aided by assiduous sponging, skilfully managed by Mr. Jordan Lloyd, sufficient to direct the stream of blood, which in the early steps of the operation was most profuse, away from the larynx, and from first to last no trouble or embarrassment from the entrance of blood into the trachea was encountered. The tongue being secured by a ligature through its tip and the requisite teeth extracted, I carried an incision, as in Syme's operation, through the median line of the lower lip, under the jaw, to terminate at the hyoid bone. I then dissected back the tissues on either side as a flap, in which was included the gum and periosteum as far as possible, by the aid of a rasp. The dissection was carried backwards nearly as far as the angle of the jaw on the left side, but on the right to a less extent; and beneath the maxilla it bared the mylo-hyoid muscle and submaxillary gland. Free bleeding accompanied every touch of the scalpel, particularly from the bone, but by pressure and Spencer Wells's forceps it was arrested with some delay. A hole was then drilled on either side just outside the line of intended section of the maxilla, which latter was accomplished by a straight saw laid vertically on the outer aspect of the bone a little beyond the limits of the disease on its inner surface. When the saw had completed its work the intervening portion of bone, having its attachments to the floor of the mouth and tongue undisturbed, was so far loosened as to permit the easy introduction of a pair of curved scissors between the sawn surfaces in such a way that one blade was within and the other without the mouth; cutting freely, the mucous membrane and mylo-hyoid muscle were detached from the bone on the right side, and on the left a little additional space was gained in the same way. The scissors were then introduced through the mouth, and made to sever the attachment of the anterior pillar of the fauces to the tongue. The loop of a chain écraseur was now carried between the sawn surfaces and over the dorsum of the tongue nearly to its root, where it was steadied with the forefinger whilst the instrument was being secured and tightened. The loop thus included in its embrace the tongue and the tissues of the floor of the mouth, excepting the integuments which had been dissected away, and twelve or fourteen minutes were occupied in cutting through. This accomplished, the mass dropped off, and some impediment to respiration being then encountered, I secured the short stump of the tongue well forwards to the cut ends of muscles in front by a couple of silk stitches cut short.

Although no bleeding followed the écraseur I took good care to search for and secure with ligatures the stumps of the lingual arteries. I quite agree with Mr. Whitehead as to the untrustworthy nature of this instrument; it not only constantly fails to prevent free spurting from the arteries at the time of operation, but, what is worse, its use is frequently followed by recurrent bleeding of a very troublesome character, which completely prevents efficient after-treatment. I would sooner encounter any hæmorrhage during the operation than be troubled with oozing of blood afterwards. I have been struck, as I daresay many others have been, with the large number of fatal cases in which more or less bleeding after the patient has returned to bed is reported as having happened; it occurred in two fatal cases I have closely observed (though not my own operations). In both the écraseur was used, and in both the patients died in the usual way of septic lung complications. Although I used the écraseur in this case I do not attach importance to it, as the parts were so fully exposed all vessels could be secured as easily as in any ordinary stump, and I should not hesitate in another similar case to complete the operation by scissors or scalpel. Indeed, from the excellent results and low mortality in his hands, I cannot but think this method of Mr. Whitehead's of removing the tongue by a cutting operation superior to all others. But, if I may judge from the experience of one case in which I adopted it a fortnight ago, I I think he underrates the amount of bleeding which may be sometimes encountered. I had occasion to remove the greater portion of one lateral half of the organ in the case in question, and employed scalpel and scissors for the purpose. Though quite controllable, the bleeding was profuse.

I believe there are elements of safety in the operation I am describing, and in the older operations, such as Syme's, in which the jaw is divided, over any operation by which the whole or the greater portion of the organ is removed through the mouth. These are the easy ligature of vessels, the direction of the blood stream away from the trachea, and the perfect drainage subsequently provided. The procedure, however, is too formidable for general use.

Having secured the vessels, I next dissected out all the enlarged lymphatic glands that could be found. There were four of them, soft and pink, and not larger than peas, along the course of the facial artery. The jaws were then wired, but without traction, just sufficient to steady their ends, and the wound in the soft parts united down the median line by pins and sutures, except at the lower angle, where a full-sized drainage-tube was secured. Finally, the cut surfaces were washed with a strong carbolic solution and the patient returned to bed, but to be kept sitting upright.

The after-treatment of the case comprised special attention to the drainage, the asepticity of the injured parts, and the nutrition of the patient. It was mainly an effort, and not unsuccessfully applied, to bring to bear the principles of modern antiseptic surgery. A diminishing mortality after operations on the tongue shows that this subject has participated in the general advance in surgery of recent years. I have alluded to the excellent results of Mr. Walter Whitehead. Mr. Arthur Barker[3] also has done much to fix attention on the danger resulting from the entrance of blood and septic matter into the lungs, and to formulate in a methodical manner measures of prevention.

Immediately after the operation I secured under the chin

[2] Excision of the Tongue. By Walter Whitehead. 1881.

[3] THE LANCET, vol. ii., 1879, pp. 234-269.

a large antiseptic pad composed of shreds of gauze, to receive the discharges down the drainage-tube, and another of the same material was applied over the mouth, so as to compel respiration by the nares only. On the third day, finding slight fetor of the breath, I had the mouth almost continually irrigated with weak Condy's fluid. The patient effected this himself by taking between his lips the nozzle of an elastic tube leading from a reservoir above his bed, and from which he could regulate the current at pleasure as it flowed away through the tube below. At the same time I replaced the pad over the mouth by a Roberts's inhaler charged with eucalyptus oil, and renewed every two hours. This was used with excellent effect, for I speedily had the satisfaction of finding all trace of fetor disappear. Nutrition was effected wholly by the rectum for the first six days, as recommended by Whitehead. Three-ounce enemata of egg, milk, and beef-tea, digested with Benger's pancreatine, were administered every three hours, and I cannot doubt but these were largely assimilated. At any rate, he did not appear to live on his own tissues, for at the end of the week, having neither pain nor fever (the temperature throughout never rose above 99·5°), he was neither thinner nor weaker than before the operation.

On the seventh day, the mouth having been previously well washed and the drainage-tube closed temporarily, he managed to swallow a quarter of a pint of milk, but slowly and with caution. This he gradually increased up to one pint, though deglutition continued for some time a protracted and tedious process. The external wound healed by primary union except at the lower angle, where the drainage-tube was retained for nearly three weeks, being replaced by successively smaller sizes. When once granulation set in the parts inside the mouth cicatrised rapidly. During the process the ends of the bone stumps became closely approximated, causing the right portion of the jaw to lie obliquely across the floor of the mouth. This is the greatest drawback to the operation, as it is in the way of putting food into the mouth. I would certainly in any similar case remove both sides of the jaw equally and well back, rather than retain a portion, the teeth in which do not meet those in the upper jaw. On December 8th, when I exhibited him (along with the parts removed) to the members of the Midland Medical Society, and the local branch of the British Medical Association, he was convalescent and ready to leave the hospital.

It now only remains to say a few words about his present condition and prospects. In respect of the former a more satisfactory result could scarcely be desired. The interior of the mouth is soundly healed, and there is but little facial disfigurement. He can articulate with distinctness, and it is no exaggeration to say that in this respect he is better than before he lost his tongue, whilst his emancipation from pain is complete. Of course he cannot masticate solids, but any soft food is taken with facility, and his nutrition has materially improved. In respect of his future, I believe there is good ground for anticipating as long an immunity from return as is enjoyed by the majority of patients who suffer removal of the tongue for cancer. The operation employed enabled me to keep wide of all infiltrated tissue, whilst the sweeping removal of the floor of the mouth—a frequent site of reappearance—must materially diminish the prospect of local return.

I am aware that the existence of swelling below the jaw at so early a period may be considered to argue a high degree of glandular infectiveness, but from that same fact I inferred that the cause might be to a great degree simple inflammatory swelling of the submaxillary gland. However this may be, both this gland and the sublingual were removed at the operation along with the original growth. The lymphatic glands I searched for and dissected out; they were four small, soft pink kernels, but whether infected or simply inflamed I do not know. The microscope, however, proved the original growth to be epithelioma.

SOCIAL SCIENCE ASSOCIATION.—The twenty-sixth annual congress of this Association is to be held at Nottingham in September next. The Secretary of the Association, Mr. J. L. Clifford-Smith, is preparing for the press "A Manual for the Congress with a Narrative of Past Labours and their Results." This work will be issued shortly, and will contain information as to the origin, constitution, and the proceedings of the Association during the quarter of a century that it has been in existence.

NERVE-VIBRATION AS A THERAPEUTIC AGENT.

BY J. MORTIMER-GRANVILLE, M.D.

ENLARGED experience in nerve-vibration as a means or method of treating disease has confirmed my belief in its value, and I have no longer any hesitation in recommending its adoption by the profession. I do this with a full sense of the responsibility which necessarily attaches to the propounder of any strange doctrine in medicine, such as that which the theory of nerve-vibration, undoubtedly, presupposes and implies; and in an especial sense to the introducer of a new therapeutic agent. The responsibility of strongly urging a recourse to nerve-vibration, I am now fully prepared to accept. I commenced the investigation of nervous phenomena, first in connexion with the various forms and causes of "pain," more than twenty years ago, and this method, which has been mentioned rather than recommended by me on several occasions during the last few years, is the outcome of a long and careful series of experiments. I have now employed it in a very considerable number of cases, differing widely in their nature and characteristics, and although I have had many failures—mainly, as I believe, from errors in diagnosis and mismanagement in the application of the treatment—the net result has been such as to place beyond reasonable question the fact that in precisely applied mechanical vibration of nerves and nerve-centres, we have a means of eliciting function and stimulating nutrition which surpasses for directness and rapidity of action any other system or method extant. If this should seem to be an over-statement of the facts, it must be borne in mind that it is made in a medical journal, and with the knowledge that the profession will soon be able to verify or disprove the accuracy of my assertions.

I do not propose to publish my cases immediately, because sufficient time has not yet elapsed since the occurrence of what I conceive to have been "cures" to show that they merited that description. At the same time, although as I have said, there are many obvious failures in my record of cases treated in this manner, the benefits which seem to have accrued from its adoption are so marked that I do not feel justified in longer delaying the step by which I place the means of forming a judgment on my method in the hands of the profession. Mr. Frederic Weiss, of the firm of Messrs. Weiss and Sons, has greatly aided me in producing, and will shortly be able to supply to members of the profession—I hope *exclusively*—a very satisfactory percuteur worked by electricity. I must acknowledge my indebtedness to Dr. George Balfour of Edinburgh for the recommendation to use electricity as a motive power. My deeply regretted friend the late Mr. Donald Napier advised me to employ this agent some five years ago, but I was then reluctant to do so lest it might be supposed that my process was in some way a modification of the use of electricity. It should therefore be understood that no current passes through the hammer of my instrument. The patient is not in the circuit. This force is, however, more convenient for sustained use than that obtained from the clock spring in my mechanical percuteur. Messrs. Weiss and Sons have also a clockwork apparatus which has been made under my supervision, and which renders practicable what the French instruments have not, with a few exceptions, hitherto enabled me to accomplish. I will now briefly state the principles of the treatment, and leave it in the hands of the profession to give it a trial.

In the treatment of neuralgia I believe percussion acts simply by interrupting a morbid series of vibrations and substituting for it another series which is not morbid. Its success is by no means certain; but it deserves a trial, and particularly in cases which would otherwise be treated by nerve-stretching. When a nerve is stretched, it is, for a time at least, prevented from vibrating. When it is mechanically vibrated by percussion, it is compelled to fall into a new rhythm by the physical law of harmonies and discords, as explained in my first paper on this subject in THE LANCET, Feb. 19th, 1881, p. 286. There are several modes of procedure. The percuteur may be applied over the seat of pain with varying force and speed until alleviation of

the trouble is produced; or the percussion may be made higher up in the trunk of the nerve, over the centre, or at a more distant point in the periphery. If these methods fail, an attempt may be made to act upon the real, or supposed, seat of the pain indirectly through some other set of nerves. If success should not attend either of these modes of procedure, the irritation which causes the pain will probably be found to be reflected from some remote seat of disturbance, as in the case of pains in the heels from piles; and this seat of the *exciting* cause may generally be discovered by the physiological anatomist who will take the trouble to run over and exhaust the series of probabilities. The plan I suggest is, of course, far more exacting than the time-honoured expedient of giving an anodyne; but *relieving* and *curing* pain are two totally different processes, and it is only with the latter I have any concern.

For the rousing of torpid nerve-centres and eliciting function from the several organs of the body, I believe nerve-vibration to be of the highest possible value. The recognised topography of the centres may serve as a rough guide for the application of the percuteur; but as it is essential that the particular nerve energising the organ should be acted upon, and, as precisely as possible, that *only*, the operator will need to tax his knowledge of the nervous system in every case specifically. In a large proportion of instances the organ will have to be approached by a circuitous path, which can only be discovered by experiment in the individual case under treatment; and the search for a way of reaching it must be made with a practical knowledge of the whole of its nervous connexions. It should never be forgotten that the therapeutic agent is mechanical *nerve*-vibration; and unless the nerve we want to stimulate is actually thrown into vibration it will not be excited to action. Every organ of the body, from the liver to the testicle, may, in the absence of disabling organic disease, be made to perform its proper function by exciting the nerve, which supplies it with energy, by mechanical vibration. In this way I have seen the liver unloaded, and what seemed to be inveterate torpidity of the intestines remedied, in a few successive vibrations. I have now under treatment the case of a child who was six weeks ago to all appearance an idiot; but who has already developed so much cerebral activity and growing intelligence under the influence of specific centre- and nerve-vibration that I entertain the strongest hope of his ultimate awakening and a fair approach to the normal state. A surprising amount of success has attended percussion in cases of obstinate, and what was supposed to be irremediable, deafness. In a certain class of cases the hearing seems to have been recovered by arousing the auditory centre. In another class of instances of benefit derived I believe this has been due to the re-establishing of the mobility of the ossiculæ by mechanical vibration at a very high speed, the tonicity of the muscular fibres attached having been at the same time restored.

In neurosthenia, neurasthenia, and even commencing sclerosis of the spinal cord with loss of tendon-reflex, the most remarkable effects are produced by applying the percuteur over the spinous processes of the appropriate vertebræ. I am afraid at present to publish some of the results recently gained. In a few cases I have wholly failed to do good, but in others—not a few—the locomotor ataxy has been removed or sensibly ameliorated, and the general improvement may be fairly described as astonishing. It is often necessary in this class of cases to combine proximate central percussion with lighter percussion at the remote periphery, especially when there is much trouble from lightning pains, or that creeping paralysis which so often first shows itself in the tibialis anticus.[1] In cases of exaggerated reflex irritability—a very common phenomenon, which is too generally overlooked—I find the best plan of procedure to be by percussion over the seat of the irritability until that is removed, which generally happens after a very few applications of the percuteur. In a majority of my cases the subjugation of this irritable state has been almost immediately followed by motor improvement.

One significant effect of nerve-vibration is observable in the influence it exerts on the vaso-motor system, as indicated by the pulse-tracings. With a view to illustrate this point—which I believe to be of great interest and high importance—I will venture, without prejudging the ultimate issue of the cases cited, to give the following details taken as typical from my case-book.

A. B., aged forty, consulted me for a highly nervous condition, characterised by a strange mixture of agaraphobia and claustrophobia, with occasional presence of sugar in the urine. I will not anticipate the full report which I shall hereafter publish of this case, but simply say that it may be set down as one of long standing and serious neurasthenia. The pulse, taken Dec. 23rd, 1881, was as below.

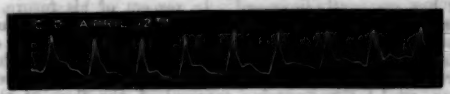
The case was treated in the usual way with tonics, &c., until Feb. 21st, when, the general symptoms being in no sensible degree relieved, the patient came to London, and I commenced nerve-vibration. At this date (Feb. 21st) I took the following tracing, which certainly showed no improvement.

The percussion was administered daily until March 7th, when he left town relieved of all his troublesome symptoms. The last tracing, taken on March 6th,

shows a very nearly normal pulse. On April 3rd, when this patient happened to be in London for a day he presented himself, improved in general health, and without any return of his old symptoms, a pulse tracing giving the following result:

C. D., aged thirty-seven, with lateral sclerosis, total abolition of patellar tendon-reflex, and so much ataxy as to render walking difficult, a lurching gait, and general unsteadiness, gave the following pulse tracing on April 4th before

commencing treatment. On April 12th I took the next



tracing. The following was taken on April 25th:

On May 5th the patient left me, walking steadily, automatically, and in a straight line, his health being improved, and the symptoms of his malady generally relieved or in abeyance. The pulse record was then as below:

I have just seen C. D. after the lapse of a month since the treatment was discontinued. The advantage gained is fully maintained.

I will only give one additional instance of this vaso-motor improvement. E. F. had suffered from neurasthenia for some seven or eight years, and had been worse for eighteen months. He was intensely nervous, shunned society, and started at

[1] I believe Dr. Hughlings-Jackson has somewhere noted this clinical fact, but, at the moment, I do not remember in what connexion or where.

the least sound. On March 16th, before commencing treatment by nerve-vibration, his pulse tracing was as follows:

On March 21st a tracing gave this result:

On April 3rd this patient left me practically well, with a pulse tracing which explained the improvement, thus:

I do not wish to lay greater stress on the clinical value of the records taken by the sphygmograph in consulting practice than may be justly due. For myself I would not readily dispense with the aid afforded by that instrument in judging of the actual state of any patient. I am careful to apply it under, as nearly as possible, the same conditions of pressure and adjustment on each occasion, and I regard as important only the angle formed by the up-stroke and the decline, together with the *relative* proportional amplitude of the waves on the descending line as compared with the height of the up-stroke, whatever that may be. I think, however much we may differ as to the significance of the tracings given above, it will be conceded that the effect of the treatment upon the vaso-motor centre must in each instance have been marked. To this influence I attribute, in a conspicuous degree, the change effected in the general health as well as the amelioration of the particular symptoms.

In ordinary paralyses, which depend upon or are accompanied by deterioration of the muscles, I think nerve-vibration by percussion is inferior in value to electricity. In short, I do not think it has any appreciable effect except on the nerves themselves. It certainly improves the nutrition of nervous tissue, and this indirectly promotes the nutrition of muscles, but the process is circuitous and slow. Faradaism is a preferable remedy. Nerve-vibration is not the rival of electricity. The two agents act in totally different manners. Vibration simply excites a nerve centre to such activity as it may have strength or power to perform. It does not impart any new energy or introduce any new force to the system. Electricity infuses an extraneous force into the organism, but with this drawback, that it is impossible to ensure its acting *only* on the nerve it is desired to stimulate, and solely in such a way as to render any act of that nerve *its own*, and therefore normal. Vibration cannot possibly act in any other way than through the nerve or upon the centre, and, in a strict sense, nervously. One curious effect of percussion may be more interesting to the physiologist than to the practitioner, but I will place it on record. Playing over the centre from which the nerves supplying a particular set of muscles arise is apt to produce a feeling of fatigue or stiffness which may seem to be located in the leg or arm, although the extremity itself is not touched. This will help to explain how what is called nightmare may produce cramp, and how the activity of certain automatic centres in a wearying dream of action may give rise to a sense of fatigue on waking.

These few hints will serve to point the practitioner to a method of procedure in making trial of the remedy, but all I know of the method is at the disposal of any member of the profession who may desire to be more fully or precisely informed. I will only say, in conclusion, that I am very hopeful that nerve-vibration will enable us to cure maladies which have hitherto been beyond remedy; and that in a certain class of cases—namely, those which require the direct stimulation of nerve-centres for their recovery—this agent will greatly help, perhaps supersede, the use of drugs.

Welbeck-street.

SOME old friends and neighbours of Dr. J. W. Cook of Manniogtree have, on the occasion of his leaving the town to practise in Colchester, presented him with a silver inkstand, a purse of money, and an address as a mark of their esteem.

A PECULIAR SKIN ERUPTION OCCURRING DURING PREGNANCY.

BY R. J. W. OSWALD, L.R.C.P. ED., M.R.C.S.

THE following case may be of interest, illustrating as it does, to a certain extent, the peculiar eruption which has lately been brought into notice, and which appears only when the subject is pregnant.

Mrs. A——, aged forty, the mother of five children, was confined of a healthy male child on March 7th, 1882. She had had no child or miscarriage for eight years and three months previously. When about five months pregnant with this last child she noticed a squamous eruption appear on the upper third of the forearms, not affecting the flexures of the elbow joints. This eruption gradually became worse, the skin was indurated and raised, and eventually both forearms and hands were affected. Almost concurrently with this the lower limbs showed the same peculiarities, with some variation, however. The enlargement was very great, almost to twice the natural size, accompanied with œdema. The skin was very rough and hard, and appeared similar to "elephantiasis." About two months before the patient was confined, larger bullæ appeared on the lower extremities, but at no time were the upper limbs thus affected. Some of these bullæ burst and formed hard thickened crusts, from which exuded a thin glairy fluid. The pain accompanying this affection was very severe, and the patient was unable to go about her household duties for fully three months previous to her confinement. Immediately after the confinement the skin of the forehead, face, neck, and upper part of the chest, which up to that time had been free from blemish, began to be squamous and indurated, and very much thickened, but no bullæ appeared at any time. Both anæsthesia and hyperæsthesia were present. She is now (seven weeks after her confinement) better in some respects, although there are still a few bullæ on the legs, and the skin still shows to a slighter extent the peculiarities just described. The patient is no doubt of a rheumatic diathesis, but whether this, combined with the great changes the system undergoes during pregnancy, has helped to cause this eruption I cannot say. The only treatment adopted has been absolute rest and the administration of alkalies. Previous to her confinement eight years ago the patient had a similar eruption on the forearms and hands, and the legs and feet were affected also about two months before the confinement. In about three weeks after this the skin was quite clear again, and the severity of the attack was not nearly to the extent as in the present instance.

Kennington-road, S.E.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium

ST. BARTHOLOMEW'S HOSPITAL.

STRANGULATED FEMORAL HERNIA; OPERATION; DEATH ON SEVENTH DAY; GANGRENE OF INTESTINES; PERFORATION AND EXTRAVASATION OF FÆCAL MATTER.

(Under the care of Mr. WILLETT.)

THE following case, for the notes of which we are indebted to Mr. Mason, house-surgeon, presents many points of usual interest.

Mary J——, aged seventy-one, was admitted on Feb. 3rd at 4 P.M. She had had a hernia three years before, which went back without trouble, and did not return. Four days previously, in the evening, she began to be sick, and on the following morning she noticed a lump in the right groin. The sickness increased, and the night before admission became fæcal. The bowels were opened last on Jan. 30th; nothing had passed the anus since.

On examination a small, irreducible femoral hernia was

found. Her pulse and temperature were good, and her expression, so far from being anxious, was almost cheerful. No taxis was tried, but the sac was opened under chloroform, and the intestine (much congested) returned. The operation was performed on Feb. 3rd. During the 4th, 5th, 6th, and till the afternoon of the 7th the progress was so favourable that every hope was strengthened. She slept well, and took as much food as it was thought safe to give her. The temperature remained normal or subnormal, except for one slight rise, and the pulse varied from 100 to 114. She passed flatus first on the evening of the 4th; there was no tympanites or tenderness over the abdomen, and sickness ceased entirely after the operation. The best feature of all was the old woman's cheerfulness, amounting to hilarity. On the evening of the 7th, however, a sudden change took place. At 5 P.M. she was seized with acute pain over the abdomen. All the symptoms of collapse and acute peritonitis followed. The skin became cold and clammy, the knees were drawn up, and the parietes of the abdomen rendered immovable. The pulse rose to 124, and became wiry. At 6 P.M. the temperature was 99·8°, and thirst and sickness came on. Opium was immediately given in large doses, and at 11 P.M. Mr. Willett opened up the wound and tried with the finger and forceps to draw down the intestine, hoping to find a perforation. The peritoneal cavity was, however, firmly closed, and no fæcal matter lay within reach. Opium and brandy, with beef-tea, were ordered to be thrown into the rectum every two hours while the patient was not asleep. On the 8th the patient retained all the enemata. Sickness continued. Dozed a little. Less pain. Abdomen distended. Skin warm and soft. Pulse 126, softer. The vomit was clear and yellowish. At 11 P.M.: Asleep. She slept well in the afternoon; intervals between vomit longer, lasting sometimes an hour. She took a little brandy and soda-water by the mouth, and kept it down. Enemata as before; abdomen not more distended. On the 9th she was sick only three times, and she slept a great deal; the enemata were given about every four hours, and the nutriment increased by the mouth. No opium was given at all. The bowels were opened comfortably.

Considering the way the patient rallied, and her progress since the first collapse, hopes were again raised. On the morning of the 9th all was still favourable. Only once sick since yesterday. Bowels opened this morning, loosely. Passed a good night without opium. Injections and food by the mouth continued. In the afternoon, as her cough and shortness of breath became more troublesome, she was turned slightly towards the left side. An hour afterwards collapse again came on, from which she did not rally, and death took place at 4 P.M.

The post-mortem examination confirmed the diagnosis to the letter. A small piece of intestine, two inches long, was found in the middle of the abdomen, gangrenous, and presenting a perforation the size of a sixpence. Two extravasations of liquid fæcal matter had evidently occurred, one some days before death, limited to an area of about four inches across, within which range were thick flakes of lymph. The other involved the whole peritoneum in recent inflammation without the formation of lymph. This second extravasation filled the whole cavity with fæcal matter. The sac at the femoral ring was firmly healed, and looked as if it had not been opened.

GREAT NORTHERN HOSPITAL.

A CASE OF ANEURISM OF THE FEMORAL ARTERY IN HUNTER'S CANAL; ELASTIC LIGATURE; COMPRESSION OF FEMORAL IN SCARPA'S TRIANGLE; CURE.

(Under the care of Mr. SPENCER WATSON.)

FOR the report of this case we are indebted to Mr. Wharry, the house-surgeon.

Philip E——, aged thirty-four, a baker, married, the father of three children, was admitted from the out-patient department, on April 26th. He was a fairly nourished man, of sallow complexion, and had enjoyed good health all his life, with the exception of the last five years, during which he had suffered from muscular rheumatism, but not enough to make him keep his bed. There was no history of syphilis, drink, or hard work. He had been out of work for ten weeks. Family history good. He came to the hospital under Dr. Clifford Beale's care complaining of a dull aching pain in the lower part of the right thigh on the inner side, worse at night, and causing weakness of the leg after slight exertion. He attributed his complaint to rheumatism, which had lasted for four weeks. During last week he noticed a swelling over the lower part of the right thigh, but cannot say if it had increased in size at all. A large circumscribed swelling, about the size of an egg, was seen pulsating in all directions, and situated in the course of the femoral artery at the lower third of the right thigh, on the inner side, just as the artery enters the popliteal space. No fluctuation was detected, pulsation ceasing on pressure over the femoral artery above. The pulse in the tibials at the ankles was scarcely perceptible. There was no œdema; no alteration in temperature of feet; the heart and lungs were normal. Pressure was ordered to be kept up with Carte's tourniquet just enough to slightly diminish the pulsation in the tumour, and the leg was raised and evenly bandaged from the foot.

April 30th: The measurements of the tumour taken round the thigh were: over the centre of the tumour, 15½ in.; upper part, 15½ in.; lower part, 13½ in. Pressure was kept up all day with tourniquet, but the pulsation was not completely controlled; and he did not complain of any pain.

May 1st: Pressure increased, and still pulsation not stopped; bears pressure well.—2nd: Pressure continued at the same rate; no more effect than yesterday.—3rd: The measurements remain the same. The artery was cut down upon and tied at apex of Scarpa's triangle. The ox-aorta ligature, steeped in 5 per cent. solution of carbolic acid, was used, and the pulsation in the tumour completely controlled, the operation being performed under strict antiseptic precautions. Leg wrapped in cotton-wool and raised on a pillow. Temperature 90° in ham of right leg two hours after operation. 11 P.M.: No sickness after operation. Feeling very comfortable; no pain. Morphia injection, a quarter of a grain. Temperature 98·8°.—4th: The patient had a good night. Pulse 65. Bowels open; general condition good. Temperature in ham of right leg 96°. Wound dressed under spray; looking well.—5th: Temperature in ham of right leg 95·4°. Slept well; no pain; takes his food well; bowels open; no pulsation in tumour. Temperature 95° at ankle; body temperature 100°.—6th: Good night; no pain; no pulsation in tumour. Temperature of limb at knee 95·8°; at ankle 95°; in axilla 98·6°.—7th: Feeling very comfortable. Temperature in axilla 98·6°.—8th: General condition good; foot quite warm; no pulse in tibials at ankle. Temperature normal in axilla. Bowels open.—10th: Temperature in ham 95°; axilla normal; no pain; foot warm.—12th: Slept well; bowels open; condition good.—13th: The wound was dressed for the second time since the operation, and found to be quite healed. Measurements of tumour: over centre, 14¼ in.; above centre, 15 in.; below centre, 12⅞ in.—17th: The wound has quite consolidated, and the condition of the patient is in every respect good.

Remarks by Mr. WATSON.—The principle involved in the employment of elastic compression of an artery by an animal ligature is a most important one, and every case in which it is tested deserves careful consideration. Mr. Barwell's ox-aorta ligature seems to be admirably adapted for carrying out this principle, and it was on that account it was used in the case above related. As compared with the complicated process by which Mr. Lister now finds it necessary to prepare his catgut ligature (which, by the way, in passing through the manufacturer's hands has already undergone much complicated manipulation), the preparation of the ox-aorta ligature appears to be simplicity itself. It possesses over catgut two important advantages—1st, being a flat band and not a twisted membrane it has no tendency to become loosened by untwisting. 2nd, being elastic it can be used to compress the artery without cutting through the inner coats. The elasticity, of course, only appears after immersion in a solution of carbolic acid (3 or 5 per cent.) for about a quarter of an hour before use. Its disadvantages are—1st. That in the dry state it has a tendency to become brittle, and if bent on itself at one point repeatedly very slight force is sufficient to break it. As, however, it is never used in the dry state, this objection is scarcely worth consideration, for in choosing a piece of the ligature for use, it is easy to select one that has not been damaged by bending or friction, and with due care in selecting the risk of getting a brittle piece must be infinitesmal. 2nd. The size of the band as compared with silk and catgut ligature threads necessitates the use of a needle with a large eye. This, however, is a very slight matter and easily overcome. In the case related the artery at the seat of ligature was to all appearance healthy,

and the risk of secondary hæmorrhage would probably have been small had even the Hunterian method been adopted. But it is easy to imagine that with an atheromatous state of the arterial coats the danger of hæmorrhage would be much greater, and in these cases the use of an elastic membrane such as ox-aorta would be of special advantage, the amount of force used in tying the ligature being only sufficient to bring the walls of the vessel into apposition, and its softness and elasticity preventing any injury to the diseased tunics. Taking into consideration the great probability of arteries leading to aneurisms being affected with atheroma, the softness and elasticity of the ox-aorta ligature seem to give it a decided pre-eminence over all ligatures hitherto employed, and its use seems preferable to the method advocated by Mr. Thomas Smith, which consists in tying the artery in two places and dividing it between the points of ligation. A diseased artery would be liable to secondary hæmorrhage by this method, and if torsion were employed instead of ligature the same danger would be incurred. With the catgut ligature and the other animal membranes hitherto employed the ox aorta shares the advantage of being either absorbed or encysted, and of allowing the wound to be treated as if no foreign body were left in it. No drainage-tube was used in the dressing of the wound, and as union by the first intention was obtained there seems to have been no necessity for its use.

GENERAL HOSPITAL FOR SICK CHILDREN, PENDLEBURY, MANCHESTER.

A CASE OF LYMPH ADENOMA OF THE RETRO-PERITONEAL GLANDS, SIMULATING AN ENLARGED SPLEEN; NECROPSY; REMARKS.

(Under the care of Dr. ASHBY.)

FOR the notes of the following case we are indebted to Mr. H. E. Walker, resident medical officer.

George H——, aged six years, was admitted June 2nd, 1881, with the following history. Three months previously he began to complain in the mornings of pain in the left side of the abdomen; seven weeks ago he had an attack of "inflammation of the lungs" on the left side, and was ill for three weeks. About this time he noticed a lump below the ribs on the left side, which afterwards increased. He had lost flesh recently. Mother died of phthisis; other brothers and sisters are weakly.

On admission he was a thin anæmic boy, with long eyelashes and anxious expression of countenance. On examination of the abdomen there was an evident bulging on the left side. This was found on palpation to be caused by a tumour which occupied the position of a greatly enlarged spleen. The tumour lay obliquely across the abdomen, and could be traced upwards beneath the left costal arch and downwards, and to the right, some two and a half inches beyond the umbilicus. Its upper (right) edge was irregular, resembling the notches of the spleen; its lower edge could be distinctly felt below the umbilicus, passing upwards under the costal arch. The tumour was dull on percussion, except a band of resonance (which varied) below the costal arch. It was not tender to the touch, was slightly movable, and also moved to some extent with respiration. Left chest in front, dulness below ninth rib in nipple line; also some dulness in base behind (old pneumonia?). Liver not enlarged; heart normal; no enlarged glands felt; urine normal; some diarrhœa. Microscopical examination of blood showed no decided excess of leucocytes.—12th day after admission: Boy has wasted. Complains of much pain and tenderness in the abdomen, and troublesome diarrhœa. The abdominal tumour has increased in size; and in addition to the irregularities at the upper edge, distinct bosses are felt on its anterior surface. On percussion, parts of the tumour are more or less resonant, notably the central portion; this is apparently not caused by coils of intestines slipping in front, as the tumour feels quite superficial. No fluctuation detected; enlargement of superficial abdominal veins.—25th day: Death. Had remained much in the same state; constant diarrhœa; wasting pain in the abdomen; temperature not above 99° F. Tumour larger; still resonant in places.

Necropsy.—Body much emaciated. On opening the abdomen about a pint of dirty fluid escaped; on turning back the abdominal walls a large tumour was apparent, extending upwards to the diaphragm in the neighbourhood of the spleen, and downwards to beyond the position of the umbilicus. The spleen was of normal size, and situated at the upper extremity of the tumour. The tumour was slightly movable, free everywhere except at its upper extremity, where it was fixed by a narrow neck to the neighbourhood of the left kidney. On section it was soft, white with hæmorrhages into its substance; it had broken down in the centre, forming a cavity large enough to contain a fist; in this cavity there were some nodular bodies, apparently fibrin. The tumour had seemingly grown from the lymphatic glands in the neigbourhood of the left kidney. The latter was itself normal, but surrounded by the growth which compressed the ureter. Right kidney was healthy, and there were no secondary deposits in the liver or chest. Mesenteric glands normal; left lung, base adherent and condensed. Microscopically the tumour consisted of round cells, with well-marked nuclei and a fine intercellular stroma difficult to demonstrate.

Remarks by Dr. ASHBY.—At first sight, and, indeed, for some time after admission, the tumour was looked upon as splenic, though its exact nature, on account of the rarity of splenic abscess or sarcoma, left in doubt. Against its being an enlarged spleen was the band of resonance, suggestive of colon, below the costal arches, though at times this resonance disappeared. The resonance noted later over the centre of the tumour, which was afterwards found to be due to a cavity in the centre, was very puzzling. Against the tumour being renal was its sharp, irregular edges and position, lying obliquely across the abdomen. Later, when the tumour became more bossy, it was suggested that it was a sarcoma of the retro-peritoneal glands. Originally it had apparently grown forward from the lumbar glands, turned down under the left costal arches, and grown down into the abdomen, occupying the position of an enlarged spleen. It could only have had a somewhat small blood-supply in consequence of its narrow neck; hence the breaking down and large cavity in its centre.

Reviews and Notices of Books.

The Transactions of the Obstetrical Society of London. Vol. XXIII. London: Longmans, Green, and Co.—This volume contains several papers of great value and interest. Dr. Robert Barnes contributes one "On so-called 'Missed Labour' with a Case in Illustration," in which the following questions are ably discussed:—(1) Can the fœtus living at term be indefinitely retained in the uterus? (2) Can the fœtus dying some time before term be indefinitely retained in the uterus? After reviewing the evidence bearing on these two questions, the author concludes that a positive answer cannot be given to the first question, but that a fœtus dying at a previable age *in utero* may be retained until the full term of gestation; and that there is strong presumption, if not absolute proof, that a fœtus dying at a viable age *in utero* may be retained for an indefinite period. Dr. Matthews Duncan contributes an extremely interesting case of phlegmasia dolens, valuable in the important bearing it has on the pathology of the affection. The disease appeared, not in the puerperal state, but in the subject of advanced cancer of the uterus. The left side was first affected and subsequently the right, and in each limb the lymphatics became varicose at the upper part of the thigh, the distension of these vessels subsiding as the swelling of the limb decreased. The paper is illustrated by two drawings, which show well the difference between the network formed by the swollen lymphatics and skin cracks. Dr. Galabin contributes an account of several microscopic sections illustrating the morbid anatomy of the uterus, and a case of intra-uterine associated with extra-uterine pregnancy; and Dr. Gastrobow one on the ganglion cervicale uteri. One of the most interesting papers in the volume is that by Dr. Herman, "On the Relation of Anteflexion of the Uterus to Dysmenorrhœa." This is

of peculiar value for several reasons: (1) the different views held by specialists on the subject; (2) the importance of the subject: if anteflexion be a cause of dysmenorrhœa the fact should be established on a scientific basis, and if it be not, then the mechanical treatment of the condition should be discarded; (3) the manner in which the author has treated the subject. Dr. Herman discusses the anatomical and clinical evidence bearing on the question in an able manner, but the most important as well as the most valuable part of his paper is the result of his own experience. He considers that evidence adduced from observations made on subjects who complain of dysmenorrhœa is one-sided. Admitting that in a great many such the uterus is anteflexed, he pertinently asks or implies the question, "Is the uterus anteflexed in other women also who do not suffer from menstrual pain?" It is only by answering this question—that is, by discovering the proportion of women who suffer from dysmenorrhœa with and without anteflexion, and of those with straight or anteflexed uteri who do not suffer from dysmenorrhœa—that the part played by anteflexion in producing menstrual pain can be determined. With this object he examined 110 women who sought relief for suffering other than uterine. He found that out of 57 women in whom the uterus was only slightly or not at all anteflexed, in 40, or 70 per cent., there was little or no pain at the menstrual period, and in 17, or 29 per cent., there was severe pain. Out of 53 women in whom there was pronounced anteflexion, in 37, or 69 per cent., there was little or no pain at the menstrual period, and in 16, or 30 per cent., there was severe pain. He concludes, therefore, that "menstruation is as often painful when the uterus is straight as when it is anteflexed, and that it is as common for menstruation to be painless when the uterus is anteflexed as when it is not anteflexed." This is, we believe, the first time that an attempt has been made to settle the question on the only basis upon which it can be finally settled, and the author has discussed his material in a fair and logical manner.

Practical Botany for Elementary Students. By D. HOUSTON. London: Stewart and Co. Edinburgh: Menzies and Co.—This is one of a class of works which we are always glad to welcome, intended to lead beginners in science to find out facts for themselves, and to record their own researches. This is the right way to follow any scientific pursuit, and biology especially cannot be learnt on any other plan. The facts are ready to hand; the student has only to use his eyes; and all such books as this can do is to tell him how to use them—what to look for. There are many works on practical botany now published, and having glanced through the pages of this latest comer we feel sure that it is well adapted for its purpose, the facts being clearly stated, and the student being encouraged to begin with types of each of the great natural orders.

Transactions of the Brighton Health Congress, 1881. London: E. Marlborough & Co.—The Brighton Congress met in December of last year under the presidency of Dr. B. W. Richardson, and now we are presented with one of the most tangible results of the three days' labours. The papers numbered over forty, and, while they differ very much in value, some being of a high degree of excellence, they form a volume of 400 pages that well repays careful study. The Executive Committee have reason to be satisfied with this result of their labours, and a perusal of this book should stimulate other large towns to follow the example so well set them by Brighton.

The Journal of Anatomy and Physiology. Conducted by Dr. HUMPHRY and Professors TURNER and MCKENDRICK. Vol. XVI., Part 3. April, 1882.—This part contains several papers of value, of which the first is one by Dr. Milnes Marshall on the Segmental Value of the Cranial Nerves, which is accompanied by a plate. Dr. Marshall gives a good historical *résumé* of the various opinions that have been held on the morphology of these nerves, and discusses their value. The account is too long to be abstracted, and cannot well be condensed, but is well worthy of perusal. Dr. Dobson gives the Anatomy of Microgale longicauda, which he shows to be one of the Centetidæ. Dr. Anderson Stuart corroborates the statement of former observers, that the curly hair of the negro is due to the curved form of the hair-follicle in this race. Dr. G. Sims Woodhead contributes an important paper on the pathological conditions observed in the medulla oblongata in a case of locomotor ataxia, showing that the disease is a myelitis connected with degeneration of the nutrient and functional centres, and probably affecting the axis cylinders. Dr. Matthew Hay continues his account of the action of saline cathartics. This paper is very interesting, and contains the results of many carefully conducted and instructive experiments. Mr. Walsham gives an account of the abnormal origin and distribution of the upper seven right intercostal arteries, with remarks. Dr. Stirling describes the digestion of blood by the common leech, and the formation of hæmoglobin crystals. Professor Turner gives the details of the anatomy of a specimen of Sowerby's whale (*Mesoplodon bidens*). The last article is a note on the anatomy of the thyro-arytenoid muscle, by S. G. Shattock.

The Journal of Psychological Medicine and Mental Pathology. Vol. VIII., Part I.—In spite of its title, the current number of Dr. Littleton Forbes Winslow's journal contains very little on the subject to which it is supposed to be devoted. The only paper which has a semblance of medical tone is a plea for the retention of the term "moral or affective insanity," by Dr. Hughes, of St. Louis. Anonymous articles deal with mad actors, and with suicide from a sociological point of view. The medical evidence on the Guiteau case is reproduced *ad nauseam* by Dr. Mann of New York, and the same subject is discussed, more systematically, by W. A. F. Browne. Mrs. Burnet discusses the influence of early education on the belief in "so-called spiritualism," and the editor endeavours to prove that Lefroy was mad. A few reviews, with "extractive matter," complete the number.

Archives de Neurologie. Vol. III. No. 9. May to June, 1882.—The only original article which is actually new in the current number of the *Archives de Neurologie* is a brief account of a case of unilateral lesion of the spinal cord by Gilbert. Other articles on the eye symptoms in hysteria by Féré, and on the hypnotic states of hystero-epilepsy by Charcot and Richet, have already been published in the proceedings of a Paris society. The section devoted to cases contains an account of the alterations found in the spinal cord in a case of talipes equino-varus by Pitres, spinal hemiplegia by Troisier and Letulle, and general meningo-encephalitis in a child by Bourneville and Waillamié.

Good Words and the *Sunday Magazine* for June. Isbister and Co.—In the former of these excellent magazines we notice an interesting sketch, continued from last month, by Mr. Wragge, F.R.G.S., F.M.S., of the process of taking meteorological observations on Ben Nevis. The difficulties and hardships attending the business are well and graphically described. In the latter publication is a brief but appreciative notice of the late Charles Darwin by Mr. H. C. Ewart, and an article on Hereditary Transmissions, regarded chiefly from a moral point of view.

The *Leisure Hour*, the *Sunday at Home*, the *Boy's Own Paper*, the *Girl's Own Paper* (Religious Tract Society), are serials well worthy of support by the different classes of readers to whom they appeal. Their contents are, as a rule, wholesome and instructive. The second-named publication for June contains an article headed "A Palace of Pain," descriptive of the Hospital for Incurables, and of some of its inmates.

THE LANCET.

LONDON: SATURDAY, JUNE 10, 1882.

THE return of Hospital Sunday for London urges us to make some contribution to the argument in support of Hospitals which will be addressed to the religious community of London by ministers of every variety of creed. We live in critical times, and even hospitals have not escaped criticism. Faults in hospital administration, acts of negligence on the part of an official, or incivility on the part of a porter, are pretty sure to be exposed. It is well that it should be so. Unfortunately there is no corresponding publication of the enormous amount of human kindness enacted in hospitals, on the part of individual governors or house committees, by the medical staffs, by fellow patients, by nurses, by visitors. Could the half of this be known, the number of subscribers to hospitals would be doubled, the amount of their subscriptions would be trebled, the Hospital Sunday Fund would reach £50,000; expenditure would not exceed income by thousands, as it does in the case of many of our best hospitals; wards would not have to be closed, and many a poor sufferer who now lies unnursed and imperfectly fed at home would find rest and healing in a hospital. It is the disadvantage of hospitals that their work is hidden and unseen. The public is not attracted to study it, or to the solution of the problem by which all the sick and the poor have to be fed, and lodged, and cured, which weighs so heavily on many hospital treasurers. Even those who next Saturday and Sunday are to plead for hospitals are not specifically invited to visit them. If hospital managers were a little less modest, and a little more worldly wise, they would find means of bringing together those who suffer and those who have the means of helping them.

We have been at some pains to ascertain the probable reasons for the starvation of hospitals; for with all the growth of our wealth and luxury, this is what it comes to. With this end we have taken counsel of hospital authorities, and we should like to take into our confidence all benevolent persons. The following are some of the reasons assigned:—

Depression of agriculture and trade.

Vague notions that hospitals are endowed, or receive a capitation grant from the State.

The absence of all elective excitement in the admission of patients and action of governors.

The multiplication of charities and calls on the public purse; the multiplication of special hospitals.

The faults of hospital administration, and defects of hospital authorities and officers.

Indifference of the public, and want of will where there is the power to give.

We must make good our assertion that the principal hospitals are stinted in their means. Let it be remembered that the endowed hospitals are excluded from our discussion, as from the Hospital Sunday Fund. The smaller hospitals seem, by the application of legacies to current expenses, to have more easily kept a balance. We have been favoured with communications from eighteen hospitals, mostly general. Of these one is in the happy position of having had for two years an income in excess of expenditure. This is the French Hospital. The German Hospital has managed for some years to cover its expenditure. The City of London Hospital for Diseases of the Chest has by larger legacies than usual had a little excess of income. The Great Northern, the Seamen's Hospital, St. Mary's, and the Royal Free have no excess of expenditure over income. But of the eighteen hospitals no less than ten have an expenditure in excess, and these include the principal institutions to which the poor look in every district of London—east, west, and central—for help, and at which no urgent case would be refused admission. The London Hospital advertises that its expenditure exceeds its "reliable" income by £26,000. We are informed that a special Maintenance Fund was established to meet the deficiency in 1878. St. George's Hospital has an annual deficit of £6521, and says in its report that, if subscriptions and donations do not increase, the sad alternative will be to close wards. It has been forced to sell £16,800 Stock in the last two years. The Middlesex Hospital has an annual excess of expenditure of £10,066, and has had to sell stock. University College Hospital has an annual excess of expenditure averaging £6385, and in the last three years has had to part with £14,094 of its capital. Westminster Hospital spends £2035 over its income, and in three years has had to sell £6600 worth of stock. The Metropolitan Free has an average excess of expenditure of £600. With some of the best Special Hospitals it is not different, except that the sums concerned are smaller. The Royal London Ophthalmic, the oldest ophthalmic hospital in the world, complains in its report of a decrease of income of £2295, compared with 1879. Its expenditure exceeds its income by £2149; and the report plaintively says that unless the hospital be aided by greatly increased means, the committee must reluctantly close the extra wards in July. The Samaritan Hospital had an adverse balance in 1881 of £700. Mrs. GLADSTONE'S Convalescent Home for three years has had an average excess of expenditure of £310. The London Fever Hospital has an excess of expenditure of £4000. It has had to close two wards; and more, if not the whole hospital, will have to be closed if help is not forthcoming.

We have said enough to show that our principal Hospitals—and the facts of the principal Dispensaries would not be very different—are in a state of impecuniosity. It is not pleasant to contemplate the consequences of the continuance of this state of matters.

It will not do to say that the expenditure is excessive, for it can be shown that in those institutions where the income is most defective the economy of management is greatest. Notably this is so in the London Hospital, the Westminster, the Middlesex, and St. George's, where the cost per bed will be found to be roughly from £80 to £95, and the cost per in-patient will average £7 14*s.* 2*d.* or less.

Neither will it do to allege that there is any material abuse of the beds of hospitals by unfit cases of persons who can pay any material share of their maintenance. What abuse does exist is more in the out-patient department, on which very little money is spent. The working classes may, and should, make provident arrangements for the ordinary

medical incidents of life, and in their collective capacity they can make much more handsome contributions to hospital funds than they have yet done. But in the grave emergencies of disease and accident let us hope that a bed will always be provided for the poor where the best nursing and skill can be secured. The advantage of hospitals is not one-sided. In them medical science and art are perfected, and the poor are impressed with the kindness of the rich. We shall always have the poor and the rich too. Happy the community in which they learn to bless and benefit each other, in which poverty is mitigated by the consideration of the rich, and riches are enhanced by the gratitude of the poor.

THE nineteenth century has lost a grand historical figure. In no royal palace or mansion of state, but in a rustic cottage on an islet in the Mediterranean, the subverter of tyrannies and the liberator of peoples has breathed his last. From boyhood, when he saved a drowning woman's life, to adolescence, when he won victories for freedom in South America; from manhood, when he vindicated Italy's right to independence and unity and Rome, till his declining years, when he raised down-stricken France from the dust, and bade her not despair of the Republic—his career was one of high-souled philanthropy and beautiful self-sacrifice; rejecting with one hand the rewards he had earned with the other, or accepting them only to confer them on those whom in his supreme modesty he thought capable of employing them more profitably for mankind.

When privation, and wounds, and disease condemned him to an invalid's life, his heart ever beat time to—

"The still, sad music of humanity,"

and in his island home, like PROMETHEUS on his rock, he yearned for the regeneration of the land he had redeemed. In the winter of 1875, after a quarter of a century's absence, he returned to Rome, and the extreme political Left—the restless residuum of the revolutionary upheaval which had reinstated Italy—were jubilant in the anticipation that he had come to unsettle things anew, and agitate for the replacement of the constitutional monarchy by the democratic republic; but to their confusion and chagrin, his first act was to renew his oath of allegiance to King VICTOR EMANUEL, and his next was to submit to the Legislature a scheme for the reclamation of the Campagna, and the expulsion of the malaria from Rome. That scheme failed to find scientific acceptance, but it initiated research, and culminated in legislation which, ere the century closes, will do for the soil what he did for its tenants—redeem it from the influences that poisoned it, and convert it from a haunt of dread and disease into a garden of peace and prosperity. He has died, indeed, too soon for Italy and civilisation, but his decline was cheered with the spectacle of good work well begun—of the first cutting of the sod and the first laying of the lines that lead to the terminus of health and happiness. Let the pilgrim to the Eternal City pass beyond the gate of St. Paul, and visit the scene associated with the martyrdom of the teacher of the Gentiles. There, in a wide hollow which desolation like a curse had marked for its own, the impulse GARIBALDI gave to the work of reclamation is palpable to every sense; and in breaking up the soil and preparing it for the sower, the convicts from neighbouring Cività Vecchia labour effectually to redeem a malversation of Nature's gifts parallel to their own—the victims of moral evil repairing the products of physical evil, with the twofold blessings of reciprocal regeneration.

For it is as a sanitary reformer in the profoundest and noblest sense that we find a place in these columns for GIUSEPPE GARIBALDI. To make a people independent and mutually helpful; to develop it in unison with the laws of its moral and material constitution; to deflect it, as a tributary stream, with all its special virtues in their most normal efficiency, into the master-current of civilisation,—such was the aim and object for which he lived and died. And it is for this consummation that every votary of the healing art who recognises himself as, in BACON'S words, the "Naturæ minister et interpres," dedicates his talents and opportunities, and hails as a pioneer and exemplar the self-sacrificing patriot now lost to Italy and the world.

In the death of GARIBALDI the age has lost one of its heroes; and this is emphatically an epoch which is not characterised by heroism, when such courage and patriotism as are the peculiar attributes of the heroic mind are extremely rare, although these two qualities, being always popular, are commonly counterfeited. GARIBALDI was, in an especial sense, an old world warrior. He loved fighting for its own sake, and, as a young man, burned with the belligerent spirit. At the same time, he was an enthusiast of the most benevolent type, and always fought on what he believed—rightly or wrongly—to be the side of freedom against slavery, for a subject race or people against the tyrant person or power that oppressed them. To LEO XIII. the vision of this great man departed from amongst us is "another figure of the Revolution passed away." To the mass of mankind, whether Catholic or Protestant, compatriot with the vanished giant of history, or foreign but not alien to his country and blood, the memory of this grand embodiment of the human spirit is the shade of a majestically receding spectacle—the veiling of a sublime realism in a pathetic idea. This century has known no more massive incarnation of the dauntless, the humane, the proudly unselfish, and the intensely manly elements of our nature. GARIBALDI had his faults, but they were the excesses of virtue. He wrote, and said, and did things which it would be well to blot out of recollection; but these are the foils of other acts and qualities which together compose a magnificent character. The homage paid to the manes of the deceased Liberator of Italy by his countrymen is lavish and perhaps impulsive in its emotional expression, but it is not too large-hearted or too warm for the occasion which has called it forth. We do not envy the carping spirit of cold criticism which can now mutter objections to a chivalrous enterprise and a brilliantly successful career.

It is of a piece with his independent greatness that GARIBALDI provided by will against the empty glorification of his remains by a public burying. Like the true *civis Romani* that he was, and gloried in being, he would have his ashes treasured in an urn, and, like the loving father he has shown himself, what is left of his earthly tabernacle—the panoply of nature he has now laid aside—is to be left at rest by the ashes of his children. The chapter of a grand story of life and heroism is ended.

WE confess that we failed to discern the object of our contemporary, the *Army and Navy Gazette*, in publishing the "Programme for the Officers of the Army Medical Department," to which we lately called attention. That object has now been made sufficiently manifest by an article attacking the present organisation of the Medical Service, under the pretence that the document in question represents the "wishes of the prominent members of the Department," and that the object of the medical officers of the present day is "to sink every legitimate and proper professional ambition," to be permitted to "usurp the functions of command, to forget that they are professional men, and consider themselves above mere doctoring." We think we may safely claim to know more of the feelings and objects of the medical officers than our contemporary, and a more incorrect representation of them it has never been our lot to read. That there may be a few—a very few—so foolish as to hold such views, the publication of the circular shows, but the great majority of the medical officers would undoubtedly repudiate them. Our contemporary would desire to see all power, except that of prescribing, taken out of the hands of the military medical officer, and that he should be compelled to wear (what it calls) a "suitable uniform," in which neither "gilt spurs nor gold lace shall have a prominent place." The right to give orders and to maintain discipline in hospital and among the men of the Army Hospital Corps is one which would never have been conferred "had the advice of our far-seeing Commander-in-Chief been taken from the first." Then, we say, well it is for the army that this advice was not taken. Those who have carefully watched the progress of the Department since its utter breakdown in the Crimea will, we are sure, agree with us that the improvement which has taken place in it has been in every respect advantageous to the soldier. The medical officer can no longer be told, when he points out matters affecting the health or lives of the men under his professional care, that "it will be time enough to give his opinion when it is asked." Nor is he obliged to request, almost as a favour, that steps may be taken to enforce his orders in the hospital or to punish the hospital servants for neglect of duty and disregard of his instructions. The tendency of the legislation for the department of late years has been to form the medical officers into a scientific corps instead of keeping them as waifs and strays attached to regiments, and the result has been very satisfactory, as evinced by the professional zeal and spirit manifested by them. The correct principle that responsibility should be accompanied with the power necessary to carry out orders and maintain discipline in hospital was introduced into the service by SIDNEY HERBERT, and if the result of that wise policy is demanded, it may be found in the marked reduction of the mortality and improvement in the health of our soldiers, and in the attention to sanitary requirements alike in cantonments and in the field. If the authorities were so unwise as to adopt the changes suggested by our contemporary—a most improbable event—the result would be a complete breakdown of the service and an impossibility of getting candidates to fill the ordinary vacancies in the department. Such a course would be most disastrous from a financial point of view by creating the necessity for a large additional money expenditure to induce a sufficient number of men to enter the service, and from a social point of view by inflicting on the Army an amount of suffering from inadequate and very inferior professional assistance in the time of sickness and of field service, which it is painful to contemplate. Under such a system no man possessing good qualifications and having any self-respect would be likely to accept a commission. Our contemporary does not state whether in thus eliminating from the medical department every semblance of being military, it would also wish the medical officers in the field always to remain in the rear beyond the reach of the enemy's fire; whether in reducing them to what it considers a strictly non-combatant body it would also wish to relieve them from combatant risks. The whole thing is too absurd. We are quite sure that the medical officers as a body have no desire to trench upon the rights and duties of the other branches of the service. Their ambition is to take up a position rather as a scientific than a military corps. All they desire is a sufficient amount of independence and power to be able to carry on their duties efficiently without being obliged on all occasions to beg as a favour what they should have as a matter of right, a fair position among the officers with whom they are daily and hourly brought in contact in the way of duty, and an equal recognition of their services when the time comes for the distribution of honours and rewards. We believe the medical officers as a body to be proud of their profession, zealous in the discharge of their duties, and anxious for the welfare of those entrusted to them, and they only claim fair play and such an amount of power as may be necessary to enable them to discharge their duties with credit to themselves and advantage to their patients. We cannot but regret the spirit manifested throughout our contemporary's article, a spirit worthy of the darkest days of military misrule.

DR. BROWN-SÉQUARD has continued his vigorous criticism of modern neurological theories in another communication to the Académie des Sciences. He pointed out that these doctrines rest upon two kinds of proof, to one of which his paper was devoted—namely, to the evidence which has been drawn from the phenomena observed when various parts of the cerebrum are irritated; phenomena which consist chiefly in movement of the limbs on the opposite side. The foundations of the doctrine that movements of one-half of the body are innervated from the opposite half of the brain have been considerably strengthened by the experimental and clinical facts on which the theory of psycho-motor centres rests. But to this doctrine Dr. BROWN-SÉQUARD states that his own experiments are absolutely opposed. The numerous researches which he has undertaken during the last four years seem to him to involve conclusions exactly contrary to the opinions which are universally received. For example, against the assertion that the irritation of the motor region of the brain uniformly produces movements in the limbs on the opposite side, he opposes certain experiments of his own. These show that irritation of one side of the pons Varolii or of the medulla, even of the anterior pyramid, causes eight or nine times out of ten movements of the limbs on the same side, and the same effect is observed when, after a transverse division of one-half of the medulla, the superior part of the pons is stimulated, mechanically or by electricity, in the part con-

sidered as motor. Irritation of the cerebral peduncle in the part considered as motor often causes movements of the limbs on the same side. This result occurs five or six times in ten when the peduncle is irritated in its inferior part, and two or three times in ten when the stimulation is applied to the upper part. If the fibres are galvanised which pass from the corona radiata or corpus striatum to the peduncle, movements are often observed on the corresponding side of the body. If these parts are divided transversely on the right side or on the left, the mechanical excitation thus produced rarely causes movement, but when it does the effect is usually manifested on the same side as the irritation. Even stimulation of the motor zone of the cortex, as COUTY has shown, sometimes causes movements on the corresponding side. Moreover, Dr. BROWN-SÉQUARD has repeatedly shown that if this zone is galvanised, after the lateral half of the medulla or of the pons Varolii is divided, the movements in the opposite limbs, instead of being prevented by this section, occur with still greater force than before the division of those conductors which have been believed to be alone capable of transmitting the stimulation of this zone to the limbs.

According to received doctrines, if one lateral half of the cervical cord is divided at the level of the second pair of nerves, and different parts of the brain are then stimulated, mechanically or electrically, on the same or on the opposite side to the spinal lesion, no movement should occur, or only a very slight movement in the members on the same side as the lesion. But Dr. BROWN-SÉQUARD finds that, under these circumstances, stimulation of the brain causes energetic movements of the limbs, such as a "bipedal" movement, diagonal or lateral, to right or left, or a movement of three, or even of four limbs. He concludes from this that one-half of the cord will suffice to transmit to the limbs, on both sides of the body, the excitation caused by stimulation of the opposite half of the brain.

According to received doctrines the transverse section of the two lateral halves of the base of the brain, the one section at a distance of one centimetre above or below the other, ought to destroy all or almost all communication between the spinal cord and the portions of the brain above the higher section, so that mechanical or chemical excitation of the cortex should cause no effect on the limbs. But Dr. BROWN-SÉQUARD asserts that under these circumstances not only does stimulation of the motor centres act energetically upon the limbs, but the same effect is produced by stimulation of parts which are not considered to be motor, such as the opto-striate bodies. In this case, also, the effect is usually most marked on the same side as that stimulated. An analysis which Dr. BROWN-SÉQUARD has made of 500 cases of unilateral convulsions in consequence of varied lesions of the brain, show that the same result is true of man as of animals. Irritation of the base of the brain and the adjacent motor regions causes convulsions more frequently on the side irritated than on the other. The superficial parts of the brain, it is true, produce chiefly crossed convulsions, but irritation in all parts *may* cause convulsion on the same side.

The conclusions drawn by Dr. BROWN-SÉQUARD are that one of the chief foundations for the theory of psycho-motor centres, and of the crossed functional relation between the hemispheres and the limbs, must be considered to have lost its value; and, secondly, that the excito-motor zone of the cerebral surface, and indeed all the excitable parts of the brain, are capable of putting in action the limbs of the same side, as well as those of the opposite side, and that they may produce these effects after the transverse division of one-half of the pons Varolii, of the medulla, or of the cervical cord, and even after two sections of the base, one of the right half and the other of the left, provided a certain interval exists between the two.

IN a previous article on the Ventilation of Sewers we stated the leading facts and difficulties of what may be termed the close-system, whereby the emanations from fæcal matter are, as it were, collected in reservoirs and laid on, like gas, into our houses; and we took occasion to point out the fallacy of the hypothesis that water-traps must needs prevent the entrance of sewer-gas into house drains. It was not to be expected that our strictures on the system extant and approved would escape the criticism, or fail to call forth the indignant remonstrance, of a certain school of sanitarians and of "sanitary engineers." Curiously enough, these authorities on the subject either fail to recognise the difference between ordinary effluvia arising from recent fæces and "sewer-gas" properly so called, or they confound the two. WILLIAM BUDD made the distinction between the three morbific elements—specific infective germ-matter, the ordinary effluvium of recent fæces, and sewer-gas—typically self-evident. He cited instances in which those members of a particular household who used one closet into which the dejecta of a typhoid patient were thrown contracted the disease; while other members of the same household, who were actually in closer personal contact with the sick person were unaffected. He gave details of cases in which the inmates of alternate houses, having their drains connected with a common sewer, were attacked; while the intermediate houses in the same row, of which the drains communicated with a different sewer, had clean bills of health so far as the so-called "epidemic" was concerned. He was in the habit of citing cases of this class to illustrate the specific nature of the contagion, and to show that no mere effluvia, however offensive, and no amount of sewer-gas, however noxious, could produce a specific disease like typhoid Instances of ordinary malaise, and severe gastric disturbance, culminating in gastric fever, or even enteric fever of the non-specific type, wanting in the characteristic affection of the glands and not presenting the typical rose-spots—the "flea-bites without a puncture mark"—of true typhoid, were adduced in proof of the mischief that might be wrought in a household by bad sanitary arrangements, which left it at the mercy of its own domestic dirt and débris. These two classes of evils existed before the sewerage system, and were, and are, dependent on faults which every householder has within his own control, and which he may amend by measures of his own devising and application. It is, however, altogether a different matter when we come to the question of sewer-gas. This is something *sui generis*, and is the distinct product of the modern system of sewage disposal. It did not, could not, exist in connexion with the old-fashioned cesspools, except when

these were disturbed; and, in the nature of things, it was exceedingly unlikely to occur in the defective brick drains of the paulo post present. We are not in the least anxious to say anything apologetic on behalf of the brick-drain system, but truth and progress are concerned in the recognition that there are worse evils accruing to the system of close drain-pipes and "absolutely severed" sewers than ever attached to the system against which the "sanitarians" and "sanitary engineers" of to-day so self-complacently inveigh.

The initial fact in practical house drainage and sewage disposal is that while recent fæcal matter gives off highly offensive effluvia, and old sewage which has advanced far in the process of decomposition *may* be pestilential, it is sewage in the intermediate stage of putrefaction that emits those peculiarly faint and sickly gases which insidiously poison the blood, depress the nerve-centres, and cause the many known and nameless diseases that sap the vitality of the organic tissues and tend to death. Sewer-gas is not a "stink"; it does not, as a matter of fact, commonly attract attention until it has largely accumulated in a building and impregnated its atmosphere, and already poisoned those within it. It is no more a simple effluvium, or fæcal vapour, or gas, than the mist arising from an ordinary swamp is malaria. Concerning the nature and properties of sewer-gas proper, the sanitarian and sanitary engineers are ignorant. It is, therefore, not unnatural that they should bestow their attention almost exclusively on what seems the greater nuisance, and that being misled by the olfactory sense, they not only go astray, but lead those who trust them implicitly into dangers which it is all-important to avoid. Better let the atmosphere of a house be nauseating from the fumes of recent fæces, or pestilential from the fumes of a cesspool, than poison its inhabitants with the demon sewer-gas skilfully laid down by a system of carefully-closed drains. Unfortunately the *savans* of the scientific sewerage school do not believe in sewer-gas as a manufactured product of their well-intentioned but most baneful ingenuity, and the demon is neither exorcised nor destroyed. It is not possible to discuss the sewage question with these gentlemen, because the differences to which we have alluded between the several kinds of nuisance and poison have no meaning for them. They deem them fanciful, and while we are speaking of one thing they are thinking and speaking of another. In short, the confusion is so bewildering that we prefer to leave the controversialists alone. Meanwhile, for plain folk, who simply wish to keep their health and have clean and habitable homes, we venture to lay down as briefly as possible a few simple rules.

First, all the vapours, gases, or effluvia that arise within a house are amenable to domestic remedies, and these to be effectual must be measures for the removal of causes rather than the mitigation of mere results and effects. No householder has a right to poison his neighbours. If there be an offensive odour in his house, let him trace it to the source from which it springs. The opening of windows, fumigations, the use of chloride of lime, or either of the thousand-and-one "disinfectants," are artifices which can at best only whiten the sepulchre, and help the man who employs them to forget the dead men's bones within. Though he may forget them, they are there still. It is a duty every householder owes to himself, his family, and his neighbours to uproot the cause of a nuisance on his premises. In cases of illness every particle of fæcal matter ought to be destroyed, instead of being simply got rid of. Why should the germs of disease be thrown broadcast into the sewers of a city because the householder who has sickness in his house is too careless or niggardly to spend a few shillings on some really *destructive* agent, which will not merely remove the odour, but disintegrate the morbid germs? We know that carbolic acid in the proportion of one in forty will do this, and there are possibly other agents which will answer the same purpose, though unfortunately nearly all of the vaunted disinfectants are rapidly vapourising deodorisers, whereas what is wanted is not to modify or overpower the "smell"—which is a small matter—but to destroy the organic matter from which the odour arises. True sanitation is a practical virtue, which must begin at home, and if every householder would do his duty within the area of his own castle and domain, it would not matter much to the health of the people what the "sanitary authorities" did with the sewage when once it passed out of the drains.

Second, all the vapours, gases, and effluvia that enter a house from without are dangerous, and those which find their way from the sewers are almost sure to be deadly. It is idle to talk about harmless "sewer-gas." Sewer-gas is always poisonous; its virulence is only a question of degree. Nothing should ever enter a house from a sewer. Questions of dip in drains, of outfall, of disconnected lavatory and bath pipes, both waste and overflow, are important; but it should be distinctly understood that these relate to the house system; and although syphons and traps in a house may act as sentries in the halls and passages of a palace, they should be guards of honour. The safety of the inmates should be secured by external defences and perfect isolation. The only connexion between the drainage apparatus of a house and the sewers should be of a nature to allow the fæcal matter to pass out, and nothing, whether gaseous or liquid, to enter in. No ordinary trap will exclude the gaseous contents of the sewers. The heated atmosphere of a house will draw sewer-gas through any trap or system of traps, any distance and at any level. Nothing short of a disconnecting chamber, itself perfectly ventilated *outside* the house by a pipe carried above the level of the house and all adjacent houses—or, still better, led away to some furnace at a distance from the tenement, where it can be passed through a fire and consumed—will suffice to render the drainage system of a house related to the modern sewerage system complete. In the days of the old cesspools every house was self-contained; the same advantage will probably be restored when the earth-system comes to be generally adopted, as sooner or later we are convinced it must be. For the present, however, we are at the mercy of the whole army of householders—not a noble-minded one—unless the connexion between the outfall of our house drains and the sewers is solely one for *exit*; and this, as we have said, cannot be secured except by the construction of a special disconnecting chamber outside the house, itself perfectly ventilated by a pipe which should carry the gases that rise from it completely away.

These two series of assertions may be taken as hints, and if carried into practice they will render the householder secure. With regard to the ventilation of the street-sewers,

there is only one mode which admits of serious consideration, and that is the construction of pipes or flues above the full height of the houses in the vicinage; and even with this system—which ought to be enforced by Act of Parliament—there will still be some danger, because many of the fæcal vapours, miscalled gases, are heavy, and will rapidly fall. Beyond question, means should be taken to burn off the gases and products of sewage putrefaction in properly constructed furnaces at short intervals in the line of main drainage. The larger sewers might thus be depurated at a very small cost for each district. The great obstacle to progress is that dogged obstinacy which springs from a vested interest in ignorance, or, let us say, in the infinite littleness of that knowledge. When a man *represents* an idea, he naturally thinks it perfect. If it is his own, he regards with jealousy anything that seems likely to jeopardise its popularity and his reputation. That is why the sanitary engineers and the narrow clique of sanitarians who support them feel much aggrieved by the attempt we are now making to bring the principles of sewerage under review. They dislike the reconsideration of a system to which they are committed. We are not so hampered, and have faith in the survival of the fittest. Submitted to the arbitrament of this inexorable law, we believe the system of sewerage extant will not survive the ordeal of a scrutinising judgment.

WE should have thought that, after the stringent remarks passed by Sir WILLIAM JENNER at the last meeting of the Royal College of Physicians on the subject of advertising in non-professional journals, as far as the Fellows of the College were concerned, the practice, at least for a time, would have been discontinued. We regret to find that this has not been the case, for on the 6th inst. we notice a Fellow of the College advertising in *The Times* a work written by himself on a special subject. Since the publication in our columns on May 27th of Messrs. CHURCHILL'S letter, it must be distinctly understood that it is not the custom for medical publishers to advertise the works of their clients in the lay press, unless especially requested to do so. Medical authors must therefore, in future, accept the responsibility of their names being brought forward in this undesirable fashion. Our attention is also drawn by a correspondent, whose letter appears in another column, to the fact that the volume of the Pathological Society's Transactions was included in the extraordinary advertisement of May 11th, to which we have already drawn attention. It is difficult to account for its appearance. It may be admitted, in the case of the other works, that, the copyright being the property of the publishers, the authors had little or no control over the action of the publishing firm in the question of advertising. But this plea cannot be urged in the case of the Pathological Society, the volume of the Transactions being the property of that body, and sold only for its benefit. It is impossible that the Council of the Society should countenance the practice of advertising in the lay press, and seek to sell the volume of the Transactions to the general public. It is, however, difficult to conceive how a firm of respectable publishers should take upon themselves to advertise without authorisation a work which was not their own property. An explanation is certainly required on this point. Now that the question of medical advertising in the lay press is fairly before the profession, we hope it will be discussed in all its bearings. It is not a matter merely concerning the honour and dignity of the leading members of the profession, but it deeply affects the interests of the whole body, for if a few physicians and surgeons are permitted to bring their names constantly and permanently before the public, their more reticent brethren are directly injured, and a blow is struck at the very root of consulting practice. Complaints are frequently made by general practitioners of the increasing tendency among the public to act independently and consult physicians and surgeons without reference to the usual medical attendant. Such a practice is injurious to all parties. Whilst we would insist on the freest choice being allowed the patient as to the consultant called in, it is only by communication with one who knows all the previous surroundings and circumstances that in the majority of instances the true data for diagnosis and prognosis can be obtained and treatment carefully and efficiently carried out. While some seem to understand the mystery of advertising, it cannot be denied that the medical man who seeks success through the public can never rely on its permanence. Whether it be the country practitioner who seeks a puff through the medium of the country newspaper on account of some successful operation performed, or the London consultant whose books are advertised in the columns of the daily press, a Nemesis is certain to follow; and the first step in the downward career—and surely it is a bitter one—is the loss of the esteem of his professional brethren.

Annotations.

"Ne quid nimis."

THE COLLEGE OF SURGEONS ELECTION.

THE annual election of members of the Council of the Royal College of Surgeons of England will take place on Thursday, July 6th. The three members who will retire by rotation are Mr. John Marshall, Mr. Alfred Baker of Birmingham, and Mr. Henry Power. All three gentlemen will, it is understood, be candidates for re-election. Mr. Marshall was originally elected in 1873, as substitute member for Mr. Charles Hawkins, retired, and was re-elected the following year, and Mr. Baker was elected in 1874, so that they have both served the full term of eight years. Mr. Power, on the other hand, was elected only three years ago, as a substitute member in place of Mr. Hilton, deceased, and retires now at the expiration of the term for which his predecessor was elected. If re-elected, each of these gentlemen will, during the ensuing term of office, be eligible for promotion to the presidential chair; indeed, Mr. Marshall will almost at once become senior vice-president, and succeed to the presidentship in the following year. Mr. Baker is next in rotation for the junior vice-presidentship. Mr. Power's turn for the same office, though not due in the ordinary course till about 1888, would yet fall within the new term of eight years. At least three new candidates have been announced—viz., Mr. G. Lawson, Fellow of Dec. 17th, 1857; Mr. John Croft, Fellow of Nov. 24th, 1859; and Mr. C. Macnamara, Fellow of June 10th, 1875. Whether the candidature of these gentlemen will be a mere matter of form, or involve a serious contest, the course of events during the next two weeks will determine. At present no distinct issues have been raised. There are only three vacancies, and already six candidates are in the field.

TUBERCULOSIS OF THE THORACIC DUCT.

THE larger lymphatic vessels obtain far less attention at the present day from pathological anatomists than they received a hundred years ago. This is doubtless in part due to changes in current theories of disease, which ascribe to the lymphatics a smaller share in pathological processes than did the doctrines of an earlier day. Of late attention has been to a considerable extent diverted from the larger trunks to the minute lymphatic vessels. A few years ago, however, some observations by Ponfick on tuberculosis of the thoracic duct directed the notice of pathologists to one part of the subject, and some interesting observations on the same lesion have been published in a recent number of Virchow's *Archiv* by Dr. Stilling of Strassburg. The thoracic duct, when thus affected, is usually enlarged throughout its extent to about three times its normal size. It can only be separated with difficulty from the adjacent connective tissue, and the vessels of the adventitia are usually conspicuously distended. The lymph contained in it is of a red colour, and often mixed with coagula. The inner surface of the duct presents innumerable miliary tubercles, most of them transparent, but some opaque. There are also other nodules of greater prominence, which considerably narrow the lumen of the duct, especially at the position of the valves which are very liable to be affected. The masses are opaque, yellowish-white, and irregularly fissured. At an early stage they are found only at certain spots, especially on the valves, and at the mouth of tributary vessels. In two cases Stilling found the change limited to a small area of the duct: in one, only half an inch near the opening into the subclavian vein being affected; in the other, about an inch and a half of the duct above the diaphragm. The small prominences were found to consist of densely massed cellular elements, which had the appearance either of leucocytes or of larger epithelial-like structures. The latter were situated chiefly at the bases of the tubercles; there was also a cellular infiltration of the adjacent vessels. In their further growth the tubercles present metamorphoses characterised by increasing indistinctness of the central cells, which become blended into a homogeneous mass, while in the periphery new corpuscles accumulate and fresh fibrin is deposited. Neighbouring prominences unite, and the hyaline substance becomes fissured, and thus the so-called "tubercular ulcers" are formed. Of a considerable number of bodies in which the condition of the thoracic duct was carefully examined, this tubercular change was met with in six only. Of the cases examined, eighteen died from acute tuberculosis, and these furnished five of the cases of duct affection; in all the cases the abdominal organs were extensively infiltrated. A remarkable fact is that most of the patients were comparatively advanced in life, the youngest was in his thirty-eighth year, and others were forty-five, fifty-seven, sixty-five, and sixty-nine years old. In only two cases were old caseous accumulations found, such as may, on Buhl's theory, have served as a point of infection; in one there was a right-sided caseous pyelo-nephritis, and caseous spots in the testicles and suprarenal bodies. In the other cases there was old tubercular mischief in the lungs and in the ileum. The structure of the new growth in the thoracic duct is certainly not that which has been described as present in the tubercular formations in vessels. Hence Stilling thinks that the small prominences ought to be regarded as merely thrombotic deposits, and that the larger deposits should be spoken of, according to the degree of cellular infiltration of the wall of the vessels, as either thrombosis or inflammation of the thoracic duct. The isolated occurrence of giant cells in the thrombi, or in the inflamed wall of the vessel, does not, he thinks, invalidate this conclusion, since they may occur as a result of endothelial overgrowth, even in the thrombi which are formed in ligatured vessels. Nevertheless, although the histological structure is not characteristic of tubercle, it is clear that the disease is intimately associated with true tubercle, and its whole history is most clearly comprehended in the conception of an actual tuberculosis of the large lymphatic vessels. Old handbooks of medicine often alluded to the occlusion of the duct by a caseous material, and to its inflammation, and the stages of the disease were described with considerable accuracy by Gendrin in 1826, but the condition was not distinguished from cancerous occlusion. The first really exact description was given by Astley Cooper in 1798.

CHOKED BY A TOOTH.

IN the current number of *The Dental Record* Mr. N. Miller records with praiseworthy candour a fatal accident that occurred in his own practice. A strong, healthy boy of between ten and eleven years of age was brought to him for the extraction of several temporary teeth which were obstructing the regular eruption of the permanent ones. The father of the lad requested that he might have nitrous oxide gas. The boy took the gas freely, and became unconscious in from fifteen to twenty seconds, and seven temporary teeth were then extracted, the last being a left lower molar. "Towards the latter stage of the operation the gag slipped, and the mouth closed; the patient became partly conscious, assuming a natural colour, when he took a deep inspiration, immediately after which he exhibited symptoms of asphyxia, and, raising his hand to his neck, he attempted to tear away his garments, though they were loose." Mr. Miller placed the patient's head across his knee, gave him some sharp slaps on the back, and told him to cough; he then tried to feel the tooth, but could not. Leaving the boy with his father and an assistant, Mr. Miller went for a medical man, and returned in about seven minutes, to find the boy dead. Tracheotomy was at once performed, but without avail. At the necropsy the missing lower molar was found firmly fixed in the larynx, with the fangs uppermost. This tragic case is full of instruction. In such operations as this appears to have been, there is a great tendency to think only of rapidity, and of getting the teeth extracted before consciousness is regained, and it is very easy to omit precautions which should prevent any such accident as this. An extracted tooth should never be left in the mouth, certainly not in a closed mouth. But apart from this, there is the consideration that had the boy's trachea been opened at once, instead of after seven minutes, his life would in all probability have been saved. The case, therefore, forms a very strong argument in favour of the view that dentists should be surgeons first and dentists afterwards.

SMALL-POX IN NOTTINGHAM.

THE medical officer of health of Nottingham, Dr. E. Seaton, has presented a report to the Health Committee on the recent outbreak of small-pox in the town. He estimates the number of cases which occurred at 195 in the five months the disease prevailed. Of these cases 175 had been officially notified, 123 removed to the authority's hospital, and 17 died there. These deaths were almost exclusively among the unvaccinated and unrevaccinated. At the time of the outbreak the notification of infectious diseases, under a local Act, had been in operation in the town two months. Previous to this notification clause coming into force sixty cases of small-pox had been notified to the authority; but afterwards no less than 115 were made known, to the infinite gain of the authority in dealing with the disease. "Preventive measures," Dr. Seaton writes, "have been effectual in keeping the disease within certain limits. But having regard to the number of cases which are kept at home, and the perverse manner in which some people will refuse to

avail themselves of vaccination, even under circumstances of great danger, it seems hopeless to expect complete success. And so the disease keeps smouldering on. As long as cases are kept at home, freely mixing with their neighbours during the stage of convalescence, and as long as those who are specially liable to infection will persist in neglecting the only proper safeguard, 'revaccination,' so long will the disease remain amongst us ready at any time to burst out with renewed vigour." The disease was distributed in groups, one of which happened to be in the vicinity of the authority's hospital. This relationship Dr. Seaton closely examined, with the result, he states, of showing that no connexion could be traced between the localisation and the position of the hospital. A similar result had been observed in the more considerable epidemic of 1871–72, when no less than 669 cases of small-pox were isolated between November and June in the same hospitals. The whole of this portion of Dr. Seaton's report deserves very attentive perusal.

THE NEWCASTLE IMPROVEMENT BILL.

WITH regard to this Bill the Select Committee of the House of Commons, presided over by Mr. Selater-Booth, have decided as follows. On the 26th ult. the Chairman announced that they had gone through the proposed provisions and struck out the following:—The powers with respect to the prevention of infection from disease; the removal to hospital of persons suffering from infectious disease, and without proper accommodation; the giving notice of disease by occupiers of dairies; the prohibition of the sale of milk, provisions, clothing, or any other article liable to communicate any infectious disease; the prohibiting of the supply of books, &c., from public libraries to infected houses; the prohibiting scholars and teachers of public schools from attending school while residing in infected houses; certain provisions with regard to bodies of persons dying from infectious disease. The clauses which the committee approved were as follows:—Those relating to giving notice of persons suffering from infectious disease, altering the penalty from £5 to 40s.; cowkeepers and others to furnish lists of customers in certain cases; further powers in relation to disinfection of premises; penalty on persons ceasing to occupy houses without previous disinfection, or giving notice to owners, or making false answers; bodies of persons dying in hospital, &c., of infectious diseases to be removed only for burial; corpses not to be carried in public conveyances, &c.

THE ABSORPTION OF VIRUS.

A FEW months ago a paper was read before the Académie des Sciences by M. Davaine on the rapidity of the absorption of virus from the surface of wounds. He found that when certain wounds were cauterised three-quarters of an hour, an hour, or even three hours after they had been inoculated with blood from animals suffering from anthrax, seven rabbits survived out of ten inoculated. Similar results have also been obtained by M. Rodet. He also operated on rabbits, making the inoculation at the extremity of the ear, which he removed after a variable time. Of eight rabbits in which the same-sized portion of the ear had been removed four died of anthrax, the part having been removed two, five, and nine hours after the inoculation; four survived, the removal having been made one, three, seven, and ten hours after the inoculation. Of nine animals similarly treated, six died in which the extremity of the ear was removed at variable intervals from one to nine hours after the inoculation, and three survived, the interval before removal having been three, five, and six hours. Other similar experiments were made, and altogether of forty-one rabbits thirty-one died, and ten survived. These results are very different from some which have been obtained by Renault and Colin, and Rodet has endeavoured to ascertain the causes which have led to such a variability in the results. These seem to be—first, the special and varying activity of bacteria, the multiplication of which undoubtedly plays an important part in the phenomena; secondly, the nature of the organic soil in which they are, so to speak, sown, which doubtless presents some differences, even in individuals of the same species; and, lastly, the precise part of the subdermic tissue in which the bacteria are placed, and which may be more or less favourable to their multiplication, and to the infection of the organism. M. Davaine has attached chief importance to the nature of the wounds, but Rodet has obtained the same results by various methods of inoculation, and hence the influence of the nature of the wound can be but slight.

THE STATION HOSPITAL SYSTEM.

IT is amusing to see the muddle into which the *Army and Navy Gazette* gets in its attempts to deny the advantages which have undoubtedly been realised from the recent reorganisation of the Army Medical Service. Last week it informed its readers that "so bad are the medical arrangements of the army just now that a well-known lady, who has always taken a deep interest in the British soldier, has, we hear, been induced to address a letter to the Secretary of State for War, pointing out to him the desirability of introducing such reforms as to prevent a recurrence of the painful scenes witnessed in the field in South Africa, where the system now in vogue broke down completely." We are not informed who this "well-known lady" is or what opportunities she has had of acquiring correct information as to the working of the medical service in South Africa, but we have no hesitation in saying that the conclusions, if correctly stated, are quite wrong. On this point our contemporary will probably admit that the opinion of H.R.H. the Duke of Cambridge, "whose views are always sound and practical," is free from every suspicion of undue partiality either for the system or those by whom it has been worked. And yet His Royal Highness recently said, in reference to the war in South Africa, that he had been unable to put his finger on any defect in the organisation and working of the department. Which is the more likely to have accurate information on the subject and to estimate correctly the manner in which the duties of the medical officers were performed—the "well-known lady" or the F.M. Commanding-in-Chief?

DARENTH IMBECILE ASYLUMS.

LAST Saturday, Sir Edmund Hay Currie, together with the members of the Metropolitan Asylums Board, paid their annual visit of inspection to the two great imbecile asylums for the sick poor of the metropolis, pleasantly situate on heights overlooking the valley of the Darenth, with glimpses of the river Thames as it passes Gravesend. Of the two asylums, one is set aside for the reception of adult patients under the care of Dr. Dyer. The other is for imbeciles, and is under the supervision of Dr. Fletcher Beach. The improved condition of the inmates is one of the happiest results which the increased attention paid to the welfare and comfort of our sick paupers has yielded. Formerly these children were kept in the workhouse wards in company with adults, and their affliction naturally became chronic. Now, under the system of training inaugurated by Miss Smith, late of Earlswood Asylum, and continued by Miss Wright and Miss Watson, a considerable number of those who are not utterly helpless are being trained through the initiative faculties to do tasks and work in tailoring, shoemaking, and other trades. The situation, structure, and general arrangement of the buildings leave nothing to be

desired; the patients seem happy, contented, and cheerful; the nursing establishment is on a liberal scale, and everything seems to have been planned and to be directed with forethought and humanity.

THE CHARGE AGAINST THE HOSPITAL FOR SICK CHILDREN.

THE Hospital for Sick Children, and, indeed, all the London hospitals, are to be congratulated on Mr. Flowers' decision on the post-mortem case to which we referred last week. Mr. Besley, on behalf of the Vigilance Association, maintained that the performance of the examination in this case was an offence against the Anatomy Act. It is extraordinary that there should be so much confusion, not only amongst the general public but amongst lawyers, as to the difference between dissection properly so-called with regard to which the regulations of the Anatomy Act apply and a simple examination made to find out the cause of death. In the present case, it will be remembered, that as the child was moribund when brought into the hospital a necropsy was indispensable. Mr. Flowers, after a week's deliberation, ruled that the Anatomy Act did not apply to the case; no indignity had been offered to the body; "the examination had been conducted by Dr. Money, the registrar, in a manner that would not render him liable to indictment." Considering the glorious uncertainty of the law and the harsh judgments which are so freely applied (even by educated people) to medical inquiry, let us be thankful for the simple justice which refuses to place a post-mortem examination on the same level with body-snatching. It is something gained that a pathologist shall not be considered to belong to quite the same category as Burke and Hare. It is also satisfactory that Mr. Besley expressly stated that the Vigilance Association made no complaint of harshness against the hospital authorities in their dealings with the mother. This was a tacit acknowledgment that the damaging statements made a few weeks ago, when the case was first broached, were erroneous. Mr. Flowers, in dismissing the summons, could not avoid expressing the wish that the complainant had been consulted before the examination was proceeded with. With that wish we feel bound to agree, whilst failing to see that, under the circumstances, any actual blame attached to the hospital authorities. Although, so far as it goes, Mr. Flowers' judgment is a help to hospitals in regard to pathological investigation, we trust that not less but more consideration may be paid to the friends of hospital patients in this matter than before. With tact and patience it will not be difficult to prove to the poor that even with respect to post-mortems they have no truer friends than hospital doctors.

LEPROSY.

IN a letter to a lay contemporary Surgeon-General Johnson has lately described the beneficial results which he observed to follow the treatment of leprosy by carbolic acid, a method of treatment which he adopted on the hypothesis that the disease depended on an organised virus—an hypothesis which, he thinks, the discoveries of Koch regarding the bacilli of tubercle render almost certainly correct. Like many others who choose the columns of the lay press as the medium for the publication of medical facts, Surgeon-General Johnson appears to be ignorant of the extent to which ascertained facts have gone beyond his theory. The discoveries of Neisser and Cornil, fully described in our columns last year (THE LANCET, 1881, vol. ii. pp. 185 and 846), placed beyond any reasonable doubt the dependence of the disease on bacteria. Special organisms were found to be invariably present, and to be uniform in character from whatever quarter of the world the specimen was obtained. An exact proof that the organisms are the cause of the disease can only be afforded by its production by the inoculation of the organisms after their artificial cultivation. It is extremely doubtful whether this proof will ever be forthcoming, since the organisms readily perish and appear to obtain a foothold in the animal system with great difficulty. Even the inoculation of the material of recent leprous tumours has almost always failed to produce the disease in animals. Neisser was, however, successful in the dog in producing a new growth crammed with characteristic bacilli. Some fresh experiments of the same character have been lately undertaken, in conjunction with Koch, by Dr. Heinrich Köbner of Berlin. The material for these experiments was a single tubercle which was excised from a patient with acquired leprosy, and a large number of inoculations were made, not only into warm-blooded animals, but also into an eel and another fish, on account of the theory that the prevalence of leprosy in Norway is dependent on the fish diet of the inhabitants. The results were, however, destitute of significance: nodules were produced in some animals, but without the characteristic bacilli, while others (guinea-pigs especially) were simply rendered tubercular, as they may be by the inoculation of innocent material. It may be, however, that certain animals are more susceptible to the growth of the bacteria, and therefore to inoculation, than any which have yet been tested. A disease in Surinam, not altogether unlike leprosy, was successfully transmitted to pigs by Van Leent.

DR. BIGELOW'S EVACUATOR.

AT a recent meeting of the New York Academy of Medicine Dr. Bigelow made some remarks on lithotrity with evacuation, and at the close showed the evacuator which he has "finally settled down upon as being the best." It consists of a spherical bulb, very short from end to end; the catheter is connected with a tube which projects into the bulb. "The sides of the projecting tube are perforated all around, so that the sum of the small perforations is greater than that of the opening in the end of the tube. The momentum given to the fragments brings them well out of the catheter into the bulb, but there is no such force to return them through the opening in the end of the catheter, for the water seeks its return through the smaller openings, which do not admit the fragments. The practical working of this instrument is most satisfactory; it prevents the return of fragments to the bladder." This instrument is figured in Dr. Bigelow's paper in the Transactions of the International Medical Congress. But it is important to observe that Dr. Bigelow has abandoned the use of the ball-valve and strainer which he describes in the same paper, and he stated in New York that both these arrangements were "a little complicated" and "apt to clog." His present evacuator is therefore decidedly simpler, and also more efficient than those he has hitherto recommended.

REPUTED CENTENARIANS.

THE Registrar-General tells us that during the ten years 1871–80 the deaths of no fewer than 767 reputed centenarians were registered in England Wales; of these, 204 were males and 563 females. No one now doubts that in very few of these would impartial and cautious investigation have established the fact of true centenarianism. It is also beyond question that there are some well-authenticated cases of English men and women completing 100 years of life. It is, in the cause of truth on a subject of considerable interest, much to be regretted that newspaper editors, clergymen, and others are too often tempted to accept unsupported statements of interested persons as to centenarianism, and thus help to keep up the myth that centenarians are as

plentiful as the typical "big gooseberries." *The Times* of Wednesday last states as a fact, without any reserve, that a Trafalgar veteran, named John Mooring, who recently died at the Royal Naval Hospital, "had attained the great age of 102 years." The only additional fact stated is that "on the memorable 21st October, 1805, he was captain of the maintop of the *Thunderer*." Now, as it will not be seventy-seven years since the battle of Trafalgar until October next, it follows that John Mooring must have been twenty-five years old at that time in order to have attained the age of 102 at his death. It is evident that the veteran may have served his country at Trafalgar and yet not have been much more than ninety years old when he died. It ought to be possible to authenticate this case, if true.

BILLROTH ON EXTIRPATION OF TUMOURS OF THE UPPER JAW.

THE tumour from which the late distinguished surgeon Pirogoff suffered has been shown to be an "infiltrated sarcomatous epulis," which had latterly taken on an epitheliomatous growth. Some discussion has taken place as to the treatment which should have been carried out, and Prof. Billroth, who was consulted by Pirogoff, has written a letter to Dr. Wywodzow of St. Petersburg, which contains several statements of great interest, of which we quote two. "My experience as a surgeon, now of thirty years' duration, has taught me that sarcomata and carcinomata, beginning entirely behind the upper jaw, are never capable of radical removal by operative procedure, even if one operates with some probability of the patient surviving the operation. Behind the upper jaw an operator is so hindered, partly technically, partly anatomically, that a clean extirpation is impossible, although he may be dealing with a very exceptional case of entirely encapsuled tumour. I am no longer the unterrified bold operator as you knew me in Zurich. I lay before myself now, always, the question, Would you permit this operation to be performed upon yourself if you were in the patient's position? Then, one comes, in the course of years, to a certain resignation. With every year which fate yet gives me, shall I become more affected by bad results in our art?" These opinions are, no doubt, open to criticism, but coming from a surgeon of great experience and acknowledged boldness and operative skill, they are well worth recording and remembering.

UNQUALIFIED PRACTICE AND REGISTERED PRACTITIONERS AT THE EAST-END.

REGISTERED practitioners who are conducting numerous dispensaries at long distances from each other, and without any chance of proper personal supervision of cases, will do well to ponder the account of two inquests in the daily newspapers of Thursday, on children attended in the first instance by "Colonel G. H. Griffen," the cause of death certified by him in the name of "David Wilson Murdoch" (?). According to the evidence the first child had "a sort of combination" complaint; just such a diagnosis as one might expect under a system of numerous dispensaries, in which the registered protector of the unqualified practitioner comes in, if he comes at all, on the last day, in time to save appearances. In the second case the "Colonel" certified death to be produced by inflammation of the bowels. In both cases the cause of death was ascertained post mortem to be due to pneumonia, which we need scarcely say had not been diagnosed by the "Colonel." Sir John Humphreys might well characterise such a system as a "snare to the public;" and the jury might well severely censure Mr. Murdoch, as they are reported to have done, for "allowing Colonel Griffen and other unqualified persons to practise in his surgery." We can only express our satisfaction at the weekly exposure of such a system by coroners and juries; and we hope that every registered practitioner who respects himself and the dignity of the profession will disconnect himself from a system by which the poor are treated by persons whose names they do not know, and in regard to whose qualifications they are misled.

DEATH OF PROFESSOR SPENCE.

OUR Edinburgh correspondent writes:—

"It is with deep regret that I have to announce the death of this distinguished surgeon, which took place at his residence, 21, Ainslie-place, Edinburgh, on Tuesday morning last. For some months past Professor Spence has suffered from a gouty inflammation of the foot, which terminated in an abscess involving the joints of one of the toes. The inflammatory process subsequently extended, and it was ultimately necessary to amputate three of the toes. Symptoms of blood-poisoning, I understand, appeared a few days after the operation and rapidly proved fatal. He was seventy years of age. Professor Spence leaves a widow and large family to mourn his loss. One of his sons, Dr. T. F. Spence, has for some time past assisted his father, both in his professorial and professional duties."

We hope to be able to publish in our next issue a sketch of the life and work of the late Professor.

FALSE TEETH: CHOKED OR DROWNED?

AN inquest was held at Portsmouth on May 31st on the body of Mr. John Forbes Calland, who had been residing at Southsea for eighteen months, and who was drowned from a bathing machine on Southsea beach on the previous day. The deceased was a magistrate for the county of Glamorganshire, and was seventy-two years of age. On Tuesday he bathed off Southsea beach, and was found shortly afterwards lying on his face in the water. On his being examined it was ascertained that his false teeth had been displaced and had blocked the windpipe, accelerating his death, which was caused by drowning. The jury returned a verdict of accidental death. It is very probable that the shock caused by diving or plunging in the cold water had induced a deep inspiration; that then the false teeth had become impacted in the opened glottis, thus preceding, and in fact causing, the drowning.

ALTERATIONS OF CUTANEOUS SENSIBILITY IN FEBRILE CONDITIONS.

SOME experiments on this point have recently been made by M. J. W. Ribalkir. The patients were, for the most part, young men, varying from fourteen to nineteen years of age, and in every instance suffering from recurrent fever; and M. Ribalkir was placed under circumstances in which he was able to ascertain the cutaneous sensibility after the first attack, when the patient felt quite well, and before and after the subsequent attacks, which were sometimes three in number. The experiments were, moreover, undertaken at the same period of the day. The sense of locality in the skin was determined by means of Weber's circle, and all the precautionary measures insisted upon by Weber, Volkmann, and Czermak were rigidly observed. Thirteen men and seven women were examined. The sense of pressure was tested by means of Eulenburg's baræsthesiometer. Eighteen patients were examined. The sense of temperature was estimated by the method of Nothnagel, except that the bottom of the wooden vessel applied to the skin was made of silver instead of brass, as being a better conductor. In each case the smallest recognisable difference in temperature between 27° and 33° C. was estimated. Eighteen patients were examined, sixteen men and two women. The sensibility of the skin for electrical currents,

and for painful impressions, was tested by means of a Dubois-Reymond's induction apparatus worked with two Bunsen's elements of moderate size. Twenty-one patients—nineteen men and two women—were examined. The results obtained in this way from seventy-two cases of recurrent fever occurring in sixty men and twelve women were as follows:—At the commencement of the febrile attack the sense of locality and the sense of pressure are increased in acuteness. The sense of temperature-variations is diminished. The sensibility for electrical currents and the sense of pain are augmented. These alterations are observed on the first day of the attack, and remain unaltered for one, two, or three days. When the temperature falls the acuteness of perception of the skin for all these kinds of stimulation falls, and when the temperature rises it is augmented. The sense of temperature runs always parallel with the fall of temperature of the body, but this is not always the case with the other forms of stimulation. The cutaneous changes of sensibility undergo the same modification in the third attack of recurrent fever as in the course of the second. In a few cases no results were obtained.

HOSPITAL EXPENSES.

SOMETHING like £7 a month is the average cost of an in-patient in a metropolitan hospital. Supposing a patient to stay on an average a month in the hospital, this would make the annual cost of each bed about £84. We commend to the wealthy and the good who will worship in London on Sunday, or perhaps escape to some "blest retirement" beyond the reach of the "collection," the proprietorship of at least one bed for the use of the maimed, the halt, and the sick.

ROYAL COLLEGE OF PHYSICIANS.

WE understand that their Royal Highnesses the Prince of Wales and the Duke of Albany have promised to be present at the conversazione to be held at this College on Wednesday evening next.

THE GENERAL MEDICAL COUNCIL.

THE General Medical Council will commence its session on June 27th, and a meeting of the Executive Committee will take place on June 26th.

THE first number of the *Archivio Medico Italiano*, edited by Dr. Luigi Concalo, Professor of Clinical Medicine at the Turin University, contains an article on Annular Strictures of the Small Intestine, by the editor; the first part of a paper on Paralytic Ataxy (*sic*) of the Heart—a new disease—by Dr. Semmola; an address on Experimental Pharmacology, by Professor Vincenzo Cheione; an Analytical Study of the Pathological Lesions in cases in which Ponfick's method of Peritoneal Transfusion was performed, by Dr. Antigono Raggi; a paper on two cases of Partial Paralytic Aphasia of Rheumatic origin, by Dr. Bufalini Luigi; and a translation of a recent article by Professor Wundt on the Problems of Experimental Psychology.

THE Health Committee of the Birmingham Town Council have recommended the Council to petition Parliament in favour of the Compulsory Notification of Infectious Diseases Bill now before the House of Commons. The recommendation was adopted by a large majority.

THE chair of Chemistry in the University of Durham College of Medicine, rendered vacant by the death of the late Professor Marreco, has been filled by the appointment of Dr. P. P. Bedson.

THE Vans Dunlop Scholarship for Chemistry and Pharmaceutical Chemistry in the University of Edinburgh (£100, tenable for three years) has been awarded to Mr. Cecil Reddie, B.Sc. The Vans Dunlop Scholarship in Anatomy, Physiology, Materia Medica, and Pathology (£100, tenable for three years) has been awarded to Mr. A. C. Yonnan. The Thompson Bursary of £25 (tenable for three years) has been awarded to Mr. G. R. Thomson of Iona; and a like Bursary to Mr. W. Bramwell Reid, who greatly distinguished himself in the examination.

M. DUVAL has been elected, by a large majority, to fill the vacancy in the Anatomy and Physiology section of the Academy of Medicine of France. The other candidates were MM. Ch. Richet, Laborde, and Farabeuf.

WE are informed that His Royal Highness the Duke of Connaught will personally distribute the prizes to the students at St. Thomas's Hospital on June 17th at 12 o'clock.

THE Board of Overseers of Harvard College, U.S.A., has decided against the medical education of women in that institution.

DR. J. S. BILLINGS has accepted the invitation to deliver the annual oration before the Medical and Surgical Faculty of Maryland in April, 1883.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Combined Sanitary Districts (Middlesex and Hertfordshire).—Dr. C. E. Saunders reports for his combined district in 1881 (population 95,591) a death-rate of 14·6 per 1000—"the lowest death-rate for the whole district" he has yet recorded,—and a birth-rate of 31·1 per 1000 of the population. The health of the district, in fact, he found "better than at any other period," and he particularly notes the steadily decreasing death-rate of infants under one year of age. This improvement he ventures to hope is in some measure due "to the better sanitary supervision that is now given to dwellings, not only during the actual occurrence of infectious disease, but systematically, whereby overcrowding is abated, and cleansing and other sanitary improvements are effected." The following observations deserve special note:—"With all the vaunted excellence of our educational system it is no less surprising than disappointing that nothing has been done to teach children some of the elementary principles of cleanliness and decency, and yet there is abundant evidence to prove that the lesson has been wanting which should teach children that the footpath or well-top is not the place to void their excrement upon. Approach the bedroom of a very large number of cottages at any hour of the day and you will find on the stairs the unemptied chamber-utensil containing matters too disgusting to specify; a few steps higher, and you will find the dirty linen of the family scattered about. Proceed to the bedrooms, and you will see one or more bedsteads on which are the filthiest of bedclothes, the deficiency of the latter being made up by cast-off clothing; the floors and every available ledge or resting-place will be covered with dust and flue; the ceilings festooned with cobwebs, and not improbably affording evidence of a leaky roof." Dr. Saunders has some useful remarks on the difficulty of providing suitable hospital accommodation in his district in emergencies, and of the confusion of thought which exists on the provision of this accommodation by sanitary authorites as such, and by guardians as poor-law authorities. The sanitary functions are being constantly confounded with the poor-law functions,

and inextricable confusion results. With reference to the Infectious Disease Notification Bill, Dr. Saunders remarks: "I would say that as at present drafted it imposes the duty of reporting to the sanitary authority on the medical man called in to attend any case of infectious disease. This is a most unjustifiable interference with the confidence which has always existed between the public and the medical profession. The duty of reporting should, as it does in the case of registering a death, devolve on the householder or person in charge of the patient, the nature of the disease having been certified to him by the medical attendant. I hope that anyone who may have any influence—and the county members certainly have—will exert it to prevent this unwarrantable and totally unnecessary interference with the relations of medical men and their patients. The returns of infectious sick which this Bill provides for will be of great value. Even now the returns of pauper sickness—which, by the way, I only receive from two authorities—are very useful in directing my attention to districts in which infectious disease occurs." Dr. Saunders speaks highly of the adoption of by-laws by rural sanitary authorities. For the most part, he says, they have worked extremely well; but it is necessary to watch pretty closely that the requirements of modern house-drainage are intelligently carried out, for if this is not done the source of danger from a drain-pipe is only transferred from one place to another, and a false security is given by an altogether unreliable contrivance.

Newton-Abbot (*Rural*).—Mr. Leonard Armstrong reports for 1881 a death-rate of 14 per 1000 living, and a birth-rate of 27·8 in the same proportion of population. The deaths from infectious disease occurring in the district during the year were few, and chiefly limited to solitary cases happening in a single household. It was difficult to assign an origin to these cases, and the mind almost of necessity fell back upon the conception of a *de novo* development.

Welborough (*Urban*).—The same medical officer of health, Mr. Leonard Armstrong, reports for this district in 1881 a death-rate of 14·5 for 1000 population, and a birth-rate of about 30·0 per 1000. No lack of amending obvious sanitary defects seems to have been wanting during the year; and Mr. Armstrong observes: "Sanitary defects in old cottages such as this are often met with, and it is sometimes difficult to contrive practicable ways and means for remedying these defects. Similar difficulties have unfortunately arisen with respect to houses very recently erected. Soil-pipes are still built into the interior of walls, and drains are still carried under the interior of dwellings, in total disregard of the dangers attending such plans; and tenants enter the houses to find themselves condemned to put up with a continual nuisance, or leave the house at great inconvenience and loss. The by-laws at present in force for new buildings are very ineffectual with respect to the proper position of house drains; and I would suggest that the Board should again attempt their revision and improvement, and bring them abreast of modern sanitary requirements. By having more details in regard to plans before they are approved, and insisting on these plans being carefully carried out, the sanitary authority and its officers will be spared much trouble and annoyance in future, and a good reputation will be secured for the town as a place of residence."

Dawlish (*Urban*).—Mr. Leonard Armstrong reports of this district for 1881 a death-rate of 17·8 per 1000 population, and a birth-rate of 23 per 1000 population. An abundant supply of pure soft water has been furnished to the town, admitting of the sewers being properly flushed, as also the waterclosets. The number of pigs and amount of pig-nuisance have been diminished and various improvements in the street drains carried out.

East Dereham (*Urban*).—Mr. Henry Bird Vincent reports for 1881 a birth-rate of 33·2, and a death-rate of 15·2 per 1000 population respectively. He again directs attention to the great proportion of deaths in infancy, "nearly all," as he observes, "traced to injudicious feeding, and he has prepared and distributed in his district a series of simple rules for the general management of infants," well adapted to show the important object he has in view. During the year the district was visited by an epidemic of small-pox, the source of which was undetected. The disease was of a mild type, but it insidiously infected a great number of persons. He complains, however, that "all the medical men in the town did not co-operate with a view to stamping out the disease. Had this co-operation (in the way of giving information of the existence of cases) been forthcoming the disease would never have spread as far as it did."

Malton (*Urban*).—Dr. Young reports for this district during 1881 a death-rate of 16·01 per 1000 of the population, as against 20·51 per 1000 in the year 1880, and an annual average death-rate of 25·8 per 1000 for several septennial periods previously; but he holds that the sanitary authority have not yet attained, to the full extent, the decreased mortality attainable in a borough so well situated as Malton. He gives a good account of the sanitary work effected during the year, and regards the diminished death-rate as one of the surest results of the labours of the authority.

Malton (*Rural*).—Dr. Young reports for this district during 1881 a death-rate of 14·09 per 1000 population, as compared with 15·55 in 1880, and a birth-rate of 25·07 in the same proportion of population. It is an unusual occurrence to find him urging upon his sanitary authority the necessity of compelling one of the principal landowners in the district to provide better house accommodation for his cottagers, in place of the "miserable hovels" some of them occupy.

Milton (*Rural*).—Dr. H. G. Sutton reports for this district during 1881 a death-rate somewhat under 12·3 per 1000 of the population and a birth-rate of 36·0 in the same proportion. The most notable event during the year was the occurrence of several cases of small-pox, presumably introduced from London. Revaccination was freely had recourse to and isolation in the infectious disease hospital.

Sittingbourne (*Urban*).—Dr. H. G. Sutton reports for this district during 1881 a death-rate of 13·0 and a birth-rate of about 38·0 per 1000 of the population respectively, the death-rate being the lowest recorded since a medical officer of health was appointed in 1876. Here also cases of small-pox occurred, introduced from the metropolis, and enteric fever was more prevalent than was desirable; but a general inspection of the district gave satisfactory results as to its sanitary condition. Sittingbourne used formerly to be a haunt of ague. "Formerly in this district," writes Dr. Sutton, "ague was the every-day complaint at all seasons, attacking the old and young indiscriminately, and sometimes very severely, but now it but seldom appears, and the description given by Hasted in his 'History of Kent,' as the 'yellow and cadaverous look of people' of this locality, certainly is not now the case. Increased value of land for brick-making purposes, draining and utilising marshes where ague was rife, together with the improved cultivation of the land itself, have brought about the desired end. Before many months have passed the Combined Infectious Hospital will be opened, the value of which cannot be over-estimated."

THE DARLINGTON POOR-LAW DISTRICT.

The township of Darlington has hitherto been regarded as a single medical district, and its medical officer has received a salary of £70 yearly and £30 for attendance on the workhouse. He has recently resigned, and the Guardians propose to create three districts, each with a population of about 12,000 souls, and to give to the medical officers who may be appointed to these districts each a salary of £35, and for the holder of the appointment to the workhouse £25. The value of a medical officer's services among the poor in 12,000 people appears to be estimated by the Guardians at a less rate than the workhouse porter. He is given the same annual salary, but in addition he lives rent free! Surely this is a case calling for the interference of the Local Government Board.

The *Gazette* of June 6th notifies the declaration of the Local Government Board that the 90th section of the Public Health Act, 1875—the section, i.e., which refers to houses let in lodgings—is in force within the district of Ramsgate.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns, 4909 births and 3237 deaths were registered during the week ending the 3rd inst. The annual death-rate in these towns, which had been equal to 20·9 and 21·5 in the two preceding weeks, declined last week to 19·9, a lower rate than has prevailed in these

towns in any previous week of this year. The lowest rates in these towns last week were 14·5 in Birkenhead, 14·9 in Sunderland, 15·6 in Cardiff, and 17·3 in London. The rates in the other towns ranged upwards to 25·2 in Plymouth, 25·9 in Bolton, 26·1 in Salford, and 31·2 in Oldham. The deaths referred to the principal zymotic diseases in the twenty-eight towns declined to 500 last week, from 569 in the previous week; 156 resulted from whooping-cough, 139 from measles, 82 from scarlet fever, 45 from "fever" (principally enteric), 20 from diphtheria, and 16 from small-pox. No deaths from any of these diseases were recorded last week either in Huddersfield or Cardiff, while they caused the highest death-rates in Salford and Bolton. Whooping-cough was proportionally most fatal in Bristol and Oldham; measles in Bolton, Preston, Bradford, and Salford; scarlet fever in Hull and Derby, and "fever" in Blackburn and Liverpool. The 20 deaths from diphtheria in the twenty-eight towns included 12 in London and 2 in Brighton. Small-pox caused 7 deaths in London and its suburban districts; also 2 each in Nottingham, Leeds, and Newcastle-upon-Tyne, and 1 each in Birmingham, Bolton, Manchester, and Sheffield. The number of small-pox patients in the metropolitan asylum hospitals, which had steadily declined in the six preceding weeks from 350 to 256, were 272 on Saturday last; 43 new cases of small-pox were admitted to these hospitals during the week, against 45 and 31 in the two previous weeks. The deaths referred to diseases of the respiratory organs in London, which had been 238 and 242 in the two previous weeks, declined to 222 last week, and were 46 below the corrected weekly average. The causes of 72, or 2·2 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Birmingham, Portsmouth, Brighton, and in six other smaller towns; while the proportions of uncertified deaths were largest in Sheffield, Blackburn, Preston, and Salford.

HEALTH OF SCOTCH TOWNS.

The annual death-rate in the eight large Scotch towns, which had been equal to 22·1, 22·2, and 22·6 per 1000 in the three preceding weeks, further slightly rose to 22·9 in the week ending the 3rd inst.; this rate exceeded by 3·0 the mean rate last week in the twenty-eight English towns. The deaths referred to the principal zymotic diseases in these Scotch towns numbered 85 last week; they included 19 from "fever," 18 from whooping-cough, 16 from diarrhœa, 15 from measles, 10 from diphtheria, 7 from scarlet fever, and not one from small-pox. The deaths referred to "fever," which had been but 6 and 9 in the two previous weeks, further rose to 19 last week, of which no fewer than 11 occurred in Edinburgh (against but 2 in each of the two preceding weeks). The 18 fatal cases of whooping-cough included 11 in Glasgow and 3 in Edinburgh. Of the 16 deaths attributed to diarrhœa, 5 occurred in Glasgow, and 3 both in Dundee and Perth. The 15 deaths from measles included 6 in Glasgow, 5 in Aberdeen, and 3 in Edinburgh. Of the 10 deaths referred to diphtheria, 4 were returned in Glasgow, and 2 both in Edinburgh and Greenock. The 7 fatal cases of scarlet fever corresponded with the number in the previous week, and included 3 in Glasgow, and 2 both in Edinburgh and Paisley. The deaths referred to acute diseases of the lungs in the eight towns, which had been 120 and 118 in the two preceding weeks, rose to 125 last week, and exceeded by 19 the deaths attributed to these diseases in the corresponding week of last year.

HEALTH OF DUBLIN.

The rate of mortality in Dublin, which had been equal to 33·4, 25·0, and 24·7 per 1000 in the three preceding weeks, was 25·5 last week. During the first nine weeks of the current quarter the death-rate in the city averaged, however, 29·0 per 1000, against 20·1 in London and 21·2 in Edinburgh. The 170 deaths in Dublin last week showed an increase of 5 upon those returned in the previous week, and included 6 which were referred to measles, 3 to "fever," 2 to diarrhœa, one to scarlet fever, and not one either to small-pox, diphtheria, or whooping-cough. Thus 12 deaths resulted from these principal zymotic diseases, corresponding with the number in the previous week; these 12 deaths were equal to an annual rate of 1·8 per 1000, against 3·0 in London and 5·1 in Edinburgh. The 6 fatal cases of measles showed an increase of 2 upon those in the previous week; since the beginning of this year no fewer than 542 deaths from this disease have been recorded within the city. The 3 deaths referred to "fever" were 3 fewer than those in the previous week. The causes of 24, or more than 14 per cent., of the deaths in the week were uncertified.

THE SERVICES.

ADMIRALTY.—Fleet Surgeon John Fisher has been promoted to the rank of Deputy Inspector-General of Hospitals and Fleets in Her Majesty's Fleet, with seniority of 30th May, 1882; Staff Surgeon George Bolster has been promoted to the rank of Fleet Surgeon in Her Majesty's Fleet, with seniority of 28th May, 1882.

The following appointments have been made:—Staff Surgeon Arthur V. Smyth, to the *Druid*, vice Gregory; Fleet Surgeon Henry Macdonnell, to the *Invincible*, vice Stephen Sweetnam; Fleet Surgeon John C. Messer, to Devonport Dockyard, vice John Fisher; Staff Surgeon John G. Clarke, to the *Boscawen*, vice Henry Macdonnell; Surgeon Charles L. Vasey, to Haslar Hospital; Surgeon Michael Fitzgerald, to Malta Hospital, vice John Wilson; Surgeon Alexander W. M'Leod, to Haslar Hospital, vice Michael Fitzgerald; Surgeon Edward James Biden, to the *Defence*, additional for the *Forester*.

Correspondence.

"Audi alteram partem."

FLOUR AND BREAD.

To the Editor of THE LANCET.

SIR,—The sciences of medicine and engineering go hand-in-hand in matters connected with the sanitation of dwellings. I think they may also work together in the preparation of food supplies. At a meeting of the Institution of Civil Engineers held on Tuesday, May 16th, three papers were read, by Messrs. Baker, Simon, and Harding, dealing with improved methods of preparing flour from corn, the objects of these methods being to produce by means of roller mills the largest bulk of white flour from a given bulk of corn, and to separate entirely by silk gauze-dressed machinery all "bran," "pollard," and "toppings" from the flour, thus producing a flour of almost perfect purity and of dazzling whiteness, for which there is, unfortunately, a growing demand in this country. Now, it is well known to chemists and medical men, though not to the general public, that such flour, whilst it has lost the rough exterior, the first coating of bran, containing silica, has also parted with nearly all of the second, third, and fourth coatings, containing as they do nitrogenous substances, phosphates and other salts, which are so necessary for the formation of bone, teeth, and muscle. When it is borne in mind how large a portion of the population of this country (more especially children) live principally on bread, in some form or other, and that whilst growing they require a larger portion of bone- and tissue-forming material than at a later period, I think the medical and engineering professions will agree with me when I state that the processes involved in the preparation of bread from grain should be such as to leave in the resulting "loaf" those elements which entitle it to its ancient name, "the staff of life," and that the changes in the chemical composition of bread which are likely to follow an extended use of improved mill machinery ("high grinding") are well worthy the attention of medical men.

The system of high grinding has been in use to a considerable extent in Hungary for some years; but the absence of bran in the Austrian and Hungarian white bread is made up for by the large consumption of rye bread, which is eaten by all classes, and is not confined in its use to the poor, as many people erroneously imagine.

The following tables show very clearly how large a proportion of valuable bone-forming material is lost by complete separation of the bran, even under the old system of milling; whilst by the Hungarian system the bran is squeezed between the rollers and parts with all the adherent flour; the

bran remains entire, none is ground into small particles, consequently none remains with the flour after dressing; and chemical analysis of flour so produced would be almost entirely free from salts, and contains less nitrogenous substance than the samples given in the tables.

*Composition of Flour and Bran, from Peligot and Bibra, 1860. (The figures are the means of 14 analyses.)**

		Parts in 100.	
		Flour.	Bran.
Water		14·0	10·3
Fatty matters		1·2	2·82
Nitrogenous substances insoluble in water	Gluten	12·8	10·84
Nitrogenous substances soluble in water	Albumen.	1·8	1·64
Non-nitrogenous soluble substances	Dextrine sugar	7·2	5·8
Starch		59·7	22·62
Cellulose†		1·7	43·46
Salts (Phosphates &c.)		1·6	2·52
		100	100

* Parkes' Hygiene, 5th edit., p. 222.

† The cellulose named above is that of the entire grain, cells and all (husk and interior). Potash, phosphoric acid, with magnesia, are the principal salts.

Dr. Parkes states, on page 223, that the nitrogenous matter in bran is sometimes as high as 15 per cent., with 3 per cent. of fat and 5·7 per cent. of salts.

I am, Sir, yours faithfully,

STEPHEN H. TERRY,
Associate Member Inst. C.E.

Local Government Board Offices, Whitehall.

"ARE HOSPITALS FOR THE POOR TO BECOME HOTELS?"

To the Editor of THE LANCET.

SIR,—Your correspondent, Dr. Potter, is right when he states that all the recipients of hospital charity are not necessitous poor. They are in many cases people well able to pay for the advice of the general practitioner, yet are of that mean and contemptible class who prey upon hospital charity for the purpose of saving their own money. This being so, is it right to supply the demands of these people, and give them for a modified fee what they are able to pay the ordinary fees for? I maintain that it is not. Moreover, I fail to see how a man, if he pays perhaps one-fortieth part of the fee for the advice which he receives, "can look the whole world in the face" and say "he owes not any man." Dr. Potter evidently thinks there is a multitude of cases which require more than ordinary skill, but does it always follow that because a man is attached to the honorary staff of a hospital that he is possessed of this skill? I venture to say that such is not invariably the case; but, anyhow, a large percentage of cases treated at hospitals are not beyond the range of the skill of the general practitioner; and it would be difficult to imagine that there is such a definite limit to the pecuniary resources of people able to pay ordinary fees, as to render them unable to pay perhaps once in a lifetime two or three guineas for a consultation with some eminent man; and I know men of very great ability whose fees do not exceed this. It is now a difficult matter to discriminate between the really necessitous poor and those who are not, by reason of their means, proper recipients of hospital charity. But to institute a system of modified payment would be to introduce another difficulty—viz., to decide whether those seeking advice and treatment for the modified fee should not be paying higher fees; and there is no doubt that some people in comfortable circumstances would, by persuading themselves that they were paying for what they got, take advantage of the scheme, and there would thus be two abuses instead of one. To create such a system is to sanction the demands of an unworthy class, to introduce an element of opposition to the general practitioner, and thus lower his already insufficient fees, and to require of the honorary staff of hospitals to give more time and labour than they already so generously give.

I am, Sir, yours faithfully,

CHARLES POPE, L.R.C.S., &c.

South Shields, May 30th, 1882.

PRISON MANAGEMENT.

To the Editor of THE LANCET.

SIR,—Referring to your leading article in THE LANCET of May 20th on the above subject, the question does not appear to me to lie so much in the Prison Act itself as in the constitution of the commission appointed by the Home Secretary to carry out the working of it. In this Commission all branches—military, naval, and civil—are represented, but the scientific specialist is not represented.

The system of dietary, upon which you lay so much stress, is a difficult problem, and I feel certain was most carefully and scientifically fixed by able men. It stands to reason that for the protection of society and the welfare of the State lawbreakers must be punished, and the punishment for short sentences must be such as to act as a deterrent on liberation. The country will not tolerate corporal punishment unless in extreme cases, so that the Commissioners can only punish offenders by means of their stomachs in combination with labour and cell discipline; this organ requires delicate manipulation, and the dietary system must be beautifully adjusted to punish the prisoner with hunger, and yet stop short of injuring his health. Hence dietetics and physiology are prominently set forth in prison management. Sir R. A. Cross did not, when organising the administrative staff, foresee the prominent part medicine would play in prison management, and the heavy responsibility year by year accumulating upon surgeons of prisons, else surely he would have placed a medical expert on the Commission who by his status and special knowledge would have aided in solving the many physiological problems involved in prison management. The general administration of local prisons is well looked after by a chairman of known administrative ability and three commissioners sitting at the Home Office, by six inspectors who visit monthly every prison in England, by governors to each prison, and by monthly visits from visiting justices; but for medical administration, carrying with it dietary, hygiene, classing for labour, punishments, release of prisoners on medical grounds, lunacy in prisons, treatment of sick, and the general health of the criminal population, one medical inspector is judged sufficient to supervise seventy-seven prisons, including convict prisons.

It is for you, Sir, as representing the medical profession, to bring this subject to the notice of Government and the public through the pages of THE LANCET, so that they may recognise that the medical department is the most important factor in prison administration, and should be represented not by an inspector, but by a Medical Commissioner, and with a proper inspectorial staff, and I feel sure that the scandals so common and so prominently brought forward would soon disappear, and that the Prison Act will yet commend itself as a wise and statesmanlike measure.

I remain, Sir, your obedient servant,

May 22nd, 1882. M.D.

"MEDICAL ADVERTISING IN THE LAY PRESS."

To the Editor of THE LANCET.

SIR,—I would draw attention to the fact that in the advertisement of *The Times* of the 11th May, to which you referred in an article last week, the Transactions of the Pathological Society of London are announced. I would ask, how can individuals be blamed when one of the leading medical societies keeps them in countenance? In this case there is not the excuse many authors can make, that the copyright being disposed of they are at the discretion of the publisher with regard to advertising how and where he likes, the Transactions being the property of the Society, and sold only for its benefit.—I am, Sir, yours truly,

June 5th, 1882. X. Y. Z.

IRELAND.

(From our own Correspondent.)

THE annual elections for President, Vice-President, Secretary, and Council of the Royal College of Surgeons in Ireland took place last Monday. Mr. J. K. Barton was elected President without opposition; but for the Vice-Presidency a contest took place between Messrs. William Stokes and W. J. Wheeler, the latter being elected by a majority of twenty votes. A rumour was circulated that another candidate for the Presidency would be proposed, but it was unfounded, though what object it was intended to serve it is impossible to state. The rumour, however, was so prevalent that the gentleman whose name was freely mentioned as an opponent to Mr. Barton deemed it advisable to deny in the Council Chamber that he had the slightest intention of becoming a candidate for the presidency. It seems strange that on the day of election for President, &c., any Fellow can be nominated for president, or other office, without any intimation having been given to the electors or to the registrar of the College. The privilege has, however, never been exercised, and if attempted would be met with determined opposition. Mr. Colles was again re-elected Secretary, not being opposed; but in the selection of the Council considerable interest was evinced, since there was a much larger number of candidates than is usual on these occasions, no less than thirty-three gentlemen having declared their intention to compete for places, of whom eighteen were out-going members. The most strenuous and persistent efforts were made by a section of the candidates to return at least one of their number, but without effect, all the out-going members, with one exception, being re-elected. Mr. Jacob, who recently resigned in order to qualify for the professorship of ophthalmic surgery, obtained a seat; and the other vacancy was filled by Mr. H. G. Croly, late examiner in the College. A fortnight ago I referred to the Council, and then stated that the electors were intensely conservative, and that the majority of them believed that, with very few exceptions, once a man had obtained a seat on the Council, only death or resignation should terminate his occupancy. The result has proved the accuracy of my remark. The annual meetings of the Irish Medical Association and the Royal Medical Benevolent Fund Society of Ireland, which take place on the same day as the College elections, bring a large influx of provincial Fellows; and one hundred and seventy-six Fellows voted at the College on the 5th inst.

The annual meeting of the College of Surgeons took place on the 3rd inst., when a good deal of interest was excited in relation to Dr. McDonnell's notice of motion in respect of the proposed outlay of a sum of money for the College School, and the suggestion that the connexion between the latter and the College should cease. The proceedings, however, although noisy enough, came to very little, the motion about which so much was expected having been withdrawn, and the attempt to injure the School was a complete failure. Dr. McDonnell was content with merely objecting to a portion of the annual report relating to the proposed outlay, and moved that it should be referred back to the Council for reconsideration. An amendment was, however, proposed by Mr. Wharton to the effect that in the interests of the College the Council were bound to maintain the School of the College by every means in their power. This was seconded by Mr. Martin, and on being put to the meeting, seventy-one voted for it and thirty-nine against; and it was ultimately passed as a resolution without a division.

A medical gentleman practising in Dublin was last week prosecuted by the guardians of the South Dublin Union for failing to forward to the registrar of the district in which he vaccinated a child a certificate that the vaccination was successful. There was some doubt as to whether the vaccination was successful; the presiding magistrate, however, ruled that it was, but being the first case under the Act a nominal fine of one shilling was imposed.

The fortieth annual meeting of the Royal Medical Benevolent Fund Society of Ireland was held on the 5th inst., at the College of Physicians. The amount available for distribution this year was £1210, of which £1024 had been adjudicated in the awards recommended to be made at the present distribution, of which sum £155 was to medical men, £741 to widows, and £128 to orphans, leaving a balance of £186 in the treasurer's hands. I find that only about one-third of the members of the profession contribute to the Fund; but if it were made a rule that no medical practitioner, his widow, or orphans could obtain a grant from the Society unless the head of the family had been a subscriber for a certain number of years (say, three or five) immediately previous to the application, no difficulty would then be found in enlisting the assistance of country practitioners.

Dr. William Beamish, Senior Physician to the Cork Fever Hospital, has resigned, after a service of nearly half a century in that institution.

Dublin, June 6th.

PARIS.

(From our Paris Correspondent.)

WHEN just three weeks ago Dr. Blanche read his report at the Academy of Medicine on "Insanity as a Cause for Divorce," he expressed an opinion, as being that of his colleagues on the Commission as well as his own, that insanity may, on general principles, be considered curable, and that, consequently, it ought not to be comprehended in the Divorce Bill. On the termination of the report Dr. Blanche received the plaudits of the assembly, and no discussion followed. From this it was inferred that the conclusions arrived at by the Commission were accepted in principle and that the clause ought to be thrown out, and this was done by the Chamber of Deputies, as mentioned in my letter of May 23rd. But it appears we have not heard the last of the matter. Dr. Luys, physician to the Salpêtrière Hospital, no mean authority on such matters, has taken a view of the subject in question almost diametrically opposed to that entertained by the Commission, and in a very interesting paper read by him at the last meeting of the Academy of Medicine, he arrives at conclusions which may be summarised as follows. Like Dr. Blanche, Dr. Luys divides his arguments into two classes, the scientific or medical, and the sentimental. He begins by asserting that on general principles insanity should be considered incurable, as when once a patient manifests symptoms of the malady the latter goes on progressing, and from simple functional derangements of the brain, structural lesions are set up in the organ for which he, in all his experience, has never met with a complete cure. In short, Dr. Blanche himself in his vast experience had only met with one case, in a lady who had been insane for fifteen years, but as he does not say what had become of her since leaving his care, Dr. Luys considered the example of little value, and could not in any case be sufficient to found a doctrine on. He thought that this exceptional case tended more to corroborate his arguments than to prove the curability of the affection. Consequently he is of opinion that with certain restrictions the law of divorce ought to be made applicable to properly authenticated cases of lunacy. As for the sentimental side of the question, Dr. Luys remarked that his adversary drew a most pathetic picture of the lunatic, but completely lost sight of the husband or wife, as the case might be, and the friends and relatives of the patient, as they may be perfectly sane, and would be condemned to lead a life better imagined than described. At the termination of the paper Dr. Luys, like Dr. Blanche, also received the applause of the meeting.

The filtration of water for other than drinking purposes in households has not received the attention at the hands of hygienists and domestic economists that the subject demands. It is a well-known fact that there is an immense quantity of water wasted which might be utilised by simply putting it through a process of filtration. The filters in ordinary use in dwelling-houses are of course too small when large quantities of water are required for washing, &c. Messrs. Farquhar and Oldham from England have lately submitted to the Société Française d'Hygiène a model of a filter of their invention, which, made of all sizes, may be adapted on a large scale to dwelling-houses, châteaux, hospitals, &c. Filters in general use in this country have one defect in common, and that is want of persistent porosity for any length of time; the interstices soon get clogged up, the water passes through with great difficulty, and the residue, which generally contains organic matter, forms a layer on the filtering substance and there putrefies. This objection is particularly applicable to sponge, which soon gets putrid. Iron-straw soon gets rusty, and imparts to the water the taste peculiar to the metal.

The substance employed by Messrs. Farquhar and Oldham is obtained by the carbonisation of leather, sawdust, or other analogous material, and to which they have given the name of "tannée," which, according to the inventors, is not open to the same objection as the substances named above. The inventors submitted a series of analyses of water obtained from different sources, which were executed by M. A. Pagnoul, Director of the Agricultural Laboratory at Arras, and subsequently verified by M. H. Pellet, a well-known analytic chemist in Paris. The following is the result obtained from one sample:—

	In milligrammes per litre.				
	Hydrotimetric standard.	Matter held in solution.	Chlorine.	Sulphuric acid.	Organic matter.
Water from the water-works of the town, mixed with Paris mud, before filtration.	20·5	500·0	11·1	4·0	20·0
The same after filtration with filtering-paper.	20·5	4·0	11·1	4·0	5·3
The same after filtration with the filter of Farquhar and Oldham.	19·5	0·0	10·6	4·0	1·4

It will be seen from the above that filtration with the apparatus under notice is performed even more effectually than with filtering paper, and it does this as well with the foulest water as with water only slightly cloudy. Another advantage of this apparatus is, filtration of large quantities at a time is effected with great rapidity, and the mechanism of the interior is so arranged that successive layers of deposit are removed, so that a fresh surface of the filtering substance is almost incessantly presented to the water to be filtered. The question was asked by some of the members present whether water so filtered might be used for drinking purposes, to which the answer was that as far as limpidity went the water was as potable as any water can be by the simple process of infiltration, and Mr. Oldham, who read the report, added that he was aware that no amount of filtration would destroy microbes or any other disease germs; but as ebullition has that effect the water may, at any rate, be rendered fit for culinary and other household purposes.

"Bankok," the large elephant, the "Jumbo" of Paris, lately died at the Jardin des Plantes, and at the necropsy it was found that his death was caused by meningitis. For some time previously he had become rather irascible; and even his keeper was afraid of him. He had lost his appetite; his bowels were obstinately confined; and he had a most haggard look. He had become greatly emaciated, and so weak that he was unable to stand. His carcase weighed over 6000 lb. In removing the scalp the skull was found worn to the depth of eight centimetres, or 3·152 inches, which was attributed to the animal moving his head to and fro in his last agony. He was captured, with his partner, and brought over to Europe when he was eight years old. Both the elephants were presented by the King of Siam to the Jardin des Plants about twenty years ago, so that Bankok's age was only twenty-eight when he died, the natural term of his life having been shortened by about three-fourths, no doubt by his captivity and its attendant evils. I am afraid his partner will not long survive him, for she is in a miserable condition, and looks but a bag of bones. I may mention that about seven years ago an attempt was made to keep the elephants together with the hope of getting them to breed, but Bankok became so infuriated that he almost killed his partner with his tusks, and became otherwise so dangerous that it was thought advisable to separate them.

A PUBLIC meeting was held at Ely on the 25th ult., with the object of raising the funds for the purpose of enlarging the Eastern Counties Asylum for Idiots, Colchester.

LOCAL papers announce the death, by prussic acid, of Mr. Samuel Argent, M.R.C.S., of Birmingham.

Obituary.

DR. GEORGE CLARK PIRIE.

WE have to record the death of Dr. Pirie, of Dundee, at the comparatively early age of fifty-two years. A native of the town, he graduated at Edinburgh in 1853, at the same time taking his diploma as L.R.C.S. Ed. Commencing practice at Liff, in Forfarshire, he remained there for several years, when he moved to Dundee, where he was shortly afterwards appointed Physician to the Royal Infirmary. He was Surgeon-Major to the Forfarshire Artillery Volunteers till about a year ago, when he resigned in consequence of failing health. He also held the position of Medical Officer of Health, and Police-Surgeon, for fourteen years; and it was in these capacities that he was best known. He performed the arduous duties of these offices with great zeal and fidelity, and fully appreciated the value of those sanitary measures he was called upon to enforce or suggest. Distracted by the cares of a good general practice, it needed his robust health to fill satisfactorily his several positions of trust; and when insidiously his fatal malady betrayed itself, he still struggled manfully at his post. About a year ago symptoms of diabetes mellitus showed themselves, and notwithstanding a complete trial of the various remedies and methods of treatment, the end has come thus soon. Had he lived, he intended spending the summer at Carlsbad; but, precipitated by an attack of vomiting, coma supervened, and he was quickly cut off. Of a genial and genuine nature, he was both a public and professional favourite, and many warm friends now mourn his loss. He leaves a widow, and a family of eight, one of whom is at present a student of medicine in his own *alma mater*.

THEOPHILUS BACON, M.D., M.CH., Q.U.I.

DR. BACON, whose death we announced last week, was a student at Galway and afterwards at Glasgow and Dublin. In 1878, after taking his degrees in the Queen's University, he became house surgeon at the Grimsby and District Hospital, where he continued for three years and a half, until he died from congestive pneumonia and asphyxia after a very short illness. By diligent study at the bedside and by reading the newest works relating to his profession as they appeared, Dr. Bacon seemed to be advancing along the road to a bright future. In 1879 he contributed to THE LANCET a "Case of Fracture of the Skull." At College he gained honours in several subjects, and in his work at Grimsby by his professional attainments and amiable disposition he secured the esteem of the staff and managers of the hospital as well as the confidence and goodwill of the many patients who were under his care. The grief of his friends at his unexpected decease cannot be told, but it is a solace to them to know that he was universally beloved by those to whose welfare he had devoted himself in his ministry of good to sick and suffering humanity. He died at the early age of twenty-seven and his remains, followed by the medical staff and secretary of the hospital, were removed from Grimsby and interred at Great Gonerby, of which parish his father is rector.

ROYAL COLLEGE OF SURGEONS.

AT an ordinary meeting of the Council of the College held on Thursday last, it was moved that the portion of the minutes relating to the reference of rejected candidates for nine or twelve months at the Pass Examination for the Membership be not confirmed. After prolonged discussion, the motion was lost by 13 votes to 7, and the minutes were eventually confirmed as they stood. The report of the Vice-Presidents on the letter of the Home Secretary asking for suggestions for the amendment of the law relating to the sale of poisons, was adopted. These suggestions were as follows:—

"That it is neither necessary nor practicable that any further restrictions should be placed on the sale of medicines containing poisons dispensed from ordinary prescriptions by legally qualified medical practitioners. That there should

be greater restrictions placed on the sale, *by wholesale*, of certain virulent poisons such as strychnine, aconitine, and all poisonous vegetable alkaloids and their salts. That further restrictions should be provided by law so as to more efficiently control the sale of poisonous patent medicines. And that the power which the Act confers on the Pharmaceutical Society to make, with the consent of the Privy Council, any additions to or alterations in Schedule A is a wholesome provision, and a sufficient guarantee that, from time to time, further changes in that Schedule will be effected, as new poisons are introduced into common use."

Drs. Bristowe, Dickinson, Gee, and F. Roberts were reappointed examiners in Medicine, and Dr. John Williams and Dr. Herman were reappointed examiners in Midwifery.

The proposal that in future all candidates for the Primary or Anatomical and Physiological Examination, whether for the diploma of Member or of Fellow of the College, be required to attend but one winter course of lectures on anatomy, instead of two courses of such lectures, was carried.

Mr. Marshall moved that the attention of the authorities of the various medical schools be called to the recent resolution on the establishment of an examination in Elementary Anatomy and Physiology at the end of the first year, and that they be invited to confer with the joint committee of the College with the view of considering the best means of carrying the resolution into effect.

Mr. Power was nominated for the Arris and Gale Lectureship on Anatomy and Physiology. The other Professors—namely, Messrs. Hutchinson, Flower, and Parker—were nominated for reappointment to the chairs which they now respectively hold.

MEDICAL NOTES IN PARLIAMENT.

IN the House of Commons on Thursday, the 1st inst., petitions for exemption of medical men from the increased carriage duty were presented from Canterbury and Alton. On Friday and following days, similar memorials came from Riseley, Durham, Camborne, Dorking, Beccles, the Isle of Wight, and Berkhampstead.

Mr. Findlater's Bill for amending the law relating to the Removal and Detention of Criminal Lunatics was brought in and read a first time on Monday.

On Tuesday, Mr. Dodson's Vagrancy Bill, which strengthens the powers of boards of guardians in dealing with vagrant paupers, was read a second time.

Vaccination Prosecutions.

Mr. Hopwood put a question to the Chief Secretary for Ireland with regard to the repeated prosecutions of a man named John Savage, at Kinsale, county Cork; and inquired whether the right hon. gentleman would consider the propriety of directing the Irish Local Government Board to follow the example of the English Local Government Board in sending a circular to the boards of guardians recommending them to limit the number of non-vaccination prosecutions.—Mr. Trevelyan said that Savage had been summoned twenty-seven times, and fined on eleven occasions for the non-vaccination of one child and twice for another. He petitioned the late Chief Secretary (Mr. Forster), who gave very careful attention to his case, and, after consultation with the Irish Local Government Board, informed him that the Board did not consider it was its province to interfere with the discretion which was vested in boards of guardians with respect to prosecutions under the Vaccination Acts. As to the second part of the question, Mr. Hopwood had not given notice of it; but after what the hon. member had told him, he would certainly inquire into the matter.

Unqualified Practitioners.

On Thursday, Mr. H. B. Samuelson gave notice that on Monday next he would ask the Home Secretary whether his attention had been called to the scandal caused by the connexion of unqualified medical practitioners with certain dispensaries in the East-end of London; whether he had read of the deaths of two children who were treated by them, and the circumstances connected with that case; and whether he would take any steps to prevent the recurrence of such illegalities and the attendance at such dispensaries of unqualified practitioners.

Vaccination.

Mr. Hopwood asked the President of the Poor-law Board whether he had deemed it right to inquire, through the Foreign Office, and with what result, of the French Government, concerning the inoculation of a foul disease by vaccination in fifty-eight soldiers of the 4th Zouaves in Algiers, during the month of December, 1880; and, if not, whether he would be able in any other manner to obtain authentic information on a subject of such great interest.—Mr. Dodson: In August last the Foreign Office was good enough, at my request, to cause a communication to be addressed to the French Government relative to this alleged case, and some months afterwards the reply was received by the English Embassy in Paris. The information is, however, incomplete. I have now caused another application to be addressed to the Foreign Office; and I hope that if the French Government have obtained any further information since the date of the former letter, they will not object to furnish it.

Deaths on an Emigrant Ship.

Mr. Moore asked the President of the Board of Trade whether his attention had been called to a paragraph purporting to give an account of the sufferings of some emigrants on board the English steamer *Nemesis*, resulting in an outbreak of diarrhœa, dysentery, and measles, and causing the death of eighteen persons.—Mr. Chamberlain said he had found that the *Nemesis* was a British ship chartered by the Royal Netherlands Steamship Company. No responsibility attached to the owners for the food or attendance upon the passengers. He learned from the agent of the company that the surgeon was a military doctor, and that all the other persons necessary to be provided were provided by the Netherlands Company. Before leaving Amsterdam the officials satisfied themselves that the Netherlands law had been complied with. The British consul-general in New York reported that ten deaths had occurred, and an inquiry was about to be made by the emigration authorities there, but no complaint had been laid before the British consul-general. Under the circumstances he (Mr. Chamberlain) had no authority to interfere.—Mr. Moore asked whether the right hon. gentleman was not aware that large numbers of persons were booked in London fraudulently under the impression that they would be shipped from a British port direct to New York, but were taken over to foreign parts and transhipped.—Mr. Chamberlain said he would make inquiry, but this could not be the case with the *Nemesis*, because her passengers were principally Jewish refugees from Russia.

Mortality in Indian Gaols.

Mr. O'Donnell asked what punishments, if any, had been inflicted upon the authorities responsible for the excessive mortality in the gaols of Bengal, through deficient diet, during the year 1879 and part of the year 1880. In reply to Mr. O'Donnell the Marquis of Hartington said:—So far as he was aware no punishment had been inflicted on anyone in respect of the great mortality which occurred in the gaols of Bengal in 1879–80. He had never denied that great mortality did take place in those years not only in the gaols of Bengal, but in those of other provinces of India. At first it was believed by many, and amongst others by the Lieutenant-Governor of Bengal and the Inspector-General of Gaols, that this mortality was greatly due to the reduced scale of diet. But the question was an extremely difficult one, and had received the most serious attention of the authorities, both in India and in this country. It appears now, from further inquiries that have been made, that it is open to doubt whether the reduced scale of diet had anything to do with the mortality prevailing in these years. The Government of India sent, in February last, the despatches which were promised on the whole question. They were of opinion that there was no reason to believe that it was because they were insufficiently fed that the prisoners died everywhere in excessive numbers in 1879. They attributed the rise in the death-rate mainly to influences affecting the general population of the country. He was, however, happy to say there had been a great decrease in the mortality since the improvement in the diet. But, as he had said, the Government of India were not satisfied that the increase of mortality was caused by the reduced scale. In reply to a further question, the noble lord added that the subject of punishments inflicted in the prisons had also been very carefully inquired into by the Government of India. No orders had been issued on the subject. Mr. O'Donnell gave notice of a resolution severely censuring Sir Ashley Eden, late Lieutenant-Governor of Bengal, for maladministration of the Indian gaols with regard to cruel punishment and starvation of the prisoners.

Heat Apoplexy.

Mr. Childers, in reply to Mr. O'Connor, said that by a circular issued last year it was ordered that all military parades should be held in the early morning whilst the hot weather continued.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following Members, having passed the Final Examination for the Fellowship on the 25th, 26th, and 27th ult., were, at a meeting of the Council held on Thursday last, duly admitted Fellows of the College:—

Ballance, Charles Alfred, M.B. Lond., Stanley House, Lower Clapton; diploma of membership dated July, 1879.
Bennett, W. C. Storer, L.R.C.P. Lond., George-street, Hanover-square; April, 1878.
Bond, Charles John, L.R.C.P. Lond., Lutterworth, Leicestershire; July, 1879.
Dale, Frederic, M.B. Cantab., L.R.C.P. Lond., Scarborough; May, 1879.
Davies, Morgan, L.R.C.P. Lond., Llangwyryfon, Cardiganshire; May, 1879.
Hopkins, John, L.S.A., Cleveland-street Infirmary; July, 1875.
Jackson, Arthur, L.S.A., Grays, Essex; July, 1878.
Lane, William Arbuthnot, M.B. Lond., Victoria Hospital, Chelsea; November, 1877.
Poland, John, L.R.C.P. Lond., Eliot Vale, Blackheath; April, 1879.
Silcock, Arthur Quarry, M.D. Lond., Graham-road, Dalston; Jan. 1878.
Taylor, James, L.R.C.P. Lond., New Gate-street, Chester; Jan. 1865.

Two other candidates passed the examination, but being under the legal age (twenty-five), the grant of their diplomas was postponed. Four candidates failed to reach the required standard, and were referred for twelve months' further professional study.

At this meeting of the Council, Mr. Mark Purcell Mayo Collier, M.B. London, of Turnham-green, who passed the Final Examination for the Fellowship in May, 1881, having now attained the legal age, was also admitted a Fellow of the College.

APOTHECARIES' HALL.—The following gentlemen passed the examination in the Science and Practice of Medicine, and received certificates to practise, on June 1st:—

Atkins, Ernest, Barrage-road, Plumstead.
Beverley, John Metcalfe, Bury, Lancashire.
Collier, Joseph, Manchester.
Cree, Herbert Eustace, St. John's Park, Highgate-hill.
Crowther, George Dowson, Luddenden, Manchester.
Meharry, William John, Southill-road, Belfast.
Parakh, Nasarwanji N., Hereford-road, Bayswater.
Roberts, Henry, Shaftesbury.
Tate, Alan Edmondson, Trent, Somerset.
Williams, Montagu William, Tunbridge Wells.

The following gentlemen also on the same day passed the Primary Professional Examination:—

Philip Barnett Bentlif and Thomas Sherwood Maddison, Middlesex Hospital; Muddle, Edward John, Guy's Hospital.

PRINCESS MARY, Duchess of Teck, has consented to open the new wards at Richmond Hospital on Saturday, July 22nd.

UNIVERSITY OF CAMBRIDGE.—On the 2nd inst. the degree of M.D. was conferred on Arthur Milnes Marshall, St. John's.

LONDON FEVER HOSPITAL.—A dinner in aid of the funds of this charity will be held at Willis's Rooms on Wednesday next, the Prince of Wales in the chair.

THE Town Council of Preston has agreed, by a majority of 29 against 16, to expend £30,000 in the purchase of sixty acres of land for the formation of a public park.

ENTERIC FEVER is reported to be very prevalent in many of the colliery districts in the neighbourhood of Fence Houses, Durham.

CAVENDISH COLLEGE, CAMBRIDGE.—Mr. E. W. Reid, a scholar of Cavendish College, who is the son of James Reid, M.D., of Canterbury, has obtained a first class in the Natural Science Tripos.

ZOOLOGICAL SOCIETY.—Professor Flower, F.R.S., the President of the Society, delivered a very interesting lecture on Thursday last, on "Armadillos, Living and Extinct," in the lecture-room attached to the Gardens. These popular lectures will be continued on succeeding Thursdays at five o'clock, by Messrs. Boyd Dawkins, W. K. Parker, St. George Mivart, W. A. Foster, P. M. Duncan, and P. L. Sclater. The lectures are free to all visitors to the Gardens.

MR. ALFRED BUTTERWORTH of Oldham has sent to the Secretary of the Oldham Infirmary a cheque for £1000 to assist in the endowment of one of the wards of that institution.

THE JACKSONIAN PRIZE.—The following is the subject for this prize for the ensuing year, 1883—viz., "The Pathology, Diagnosis, and Treatment of Obstruction of the Intestines in its Various Forms in the Abdominal Cavity." The subject for the present year is "Wounds and other Injuries of Nerves, their Symptoms, Pathology, and Treatment," essays for which must be sent in on Saturday, Dec. 30th, when essays for the Collegial Triennial Prize will be due.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following office-bearers have been elected for the ensuing year:—President: J. K. Barton. Vice-president: W. J. Wheeler. Secretary: W. Colles. Council: W. Colles, R. G. H. Butcher, G. H. Porter, J. H. Wharton, W. A. Elliott, G. H. Kidd, J. J. Tufnell, E. Hamilton, R. Macnamara, R. McDonnell, E. D. Mapother, A. Jacob, H. G. Croly, E. H. Bennett, P. C. Smyly, J. Denham, A. H. Corley, W. T. Stoker, and Samuel Chaplin.

COLLEGIATE LECTURES.—Professor G. F. Yeo commenced his course of three lectures on the "Relation of Experimental Physiology to Practical Medicine," in the theatre of the Royal College of Surgeons, on the 2nd inst., and will be succeeded on the 9th inst. by Professor J. Hutchinson, who will deliver six lectures on "Temperament, Idiosyncrasy, and Diathesis in relation to Surgical Disease." The annual course of lectures will be brought to a close by Mr. F. S. Eve, Erasmus Wilson lecturer, who will deliver three lectures on "Cystic Tumours of the Jaws" and the "Etiology of Tumours," commencing on the 23rd inst.

MEDICAL STUDENTS' CLUB.—A meeting was held at Anderton's Hotel, Fleet-street, on Saturday, June 3rd, of medical students from the various hospitals, when it was decided to form a medical students' club. It was also resolved to hold meetings at each hospital during the present week, and the names of gentlemen who undertook to conduct the meetings were taken. Some songs and music tended to make the evening pass pleasantly. After an animated discussion the meeting closed with votes of thanks to the president and officers, all the gentlemen present promising to do their utmost on behalf of the club.

EAST LONDON CHILDREN'S HOSPITAL.—The annual meeting of this institution was held at the Cannon-street Hotel on the 31st ult. During the last financial year the whole number of patients treated amounted to 11,286. The receipts were £7633, as compared with £11,313 in the year preceding; the expenditure was represented by the sum of £8975, of which £3133 was for purposes other than those usually included under the head of "Maintenance." With the view of raising the funds necessary for increasing the accommodation for out-patients, &c., it is proposed to hold a festival dinner at Willis's Rooms on June 21st, at which Dr. Andrew Clark has consented to preside.

Medical Appointments.

Intimations for this column must be sent DIRECT *to the Office of* THE LANCET *before 9 o'clock on Thursday Morning, at the latest.*

ASHWORTH, J. WALLWORTH, L.R.C.P. Lond., M.R.C.S., L.S.A. Lond., has been appointed Surgeon to the Northern Counties Hospital for Incurables, Muldreth Hall.

BATTERHAM, J. W., M.R.C.S., L.S.A. Lond., has been appointed House-Physician and Chloroformist at the Westminster Hospital, vice G. F. Gubbin.

CONNON, CHAS. JAS., M.B., C.M. Aber., has been appointed Medical Officer to the Allenhead's District of the Hexham Union.

COX, LLEWELYN FREDERICK, M.R.C.S., has been appointed Medical Superintendent of the Denbigh Asylum.

DAVIS, WM HENRY, L.S.A. Lond., has been appointed Medical Officer to the Churchstanton District of the Taunton Union.

EVANS, JOHN, L.R.C.P. Ed., has been appointed Surgeon to the Ebbw Vale workmen residing at Beaufort.

JACKSON, DANIEL, M.D., L.F.P.S. Glas., has been reappointed Medical Officer of Health for the Hexham Urban Sanitary District.

JACKSON, J. HUGHLINGS, M.D. St. And., F.R.C.P.L., has been appointed Consulting Physician to the Kent County Ophthalmic Hospital, vice Addison, deceased.

LAFFAN, EDW M., L.R.C.P. Ed., L.R.C.S. Ed., has been appointed Medical Officer to the Coxwold District of the Easingwold Union.

LONGBOTTOM, WILLIAM, L.R.C.P. Ed., L.R.C.S. Ed., has been appointed Resident Surgeon to the District Hospital, Great Grimsby, vice Bacon, deceased.

MATTHEWS, A. M., L.D.S.R.C.S.I., has been appointed Honorary Dental Surgeon to the Bradford Infirmary.

MOORE, Mr. E. H., has been reappointed Public Analyst for the Western Division of the County of Sussex.

MOORE, WILLIAM DAVID, M.D., M.Ch. Q.U.I., has been appointed Assistant Medical Officer to the Wilts County Asylum, vice Llewelyn F. Cox, M.R.C.S., resigned.

SANDERSON, R., M.R.C.S., has been appointed Junior House-Physician at the Westminster Hospital, vice J. W. Batterham.

SCOUGAL, EDW. FOWLER, M.B., C.M., L.R.C.S.Ed., has been appointed Medical Officer to the Falstone District of the Huddersfield Union.

SHEPHERD, T. A. J., M.R.C.S., L.S.A.Lond., has been appointed Second Assistant Medical Officer to the Surrey County Asylum, Brookwood.

THURSFIELD, THOS. W., M.D., M.R.C.P.Lond., has been elected Honorary Physician to the Warneford Hospital, Leamington, vice Henry Homer, M.D., deceased.

TWIGGE, THOS. NATHANIEL, M.R.C.S., has been appointed Medical Officer of Health for the Southern Division of the Ashbourne Rural Sanitary District.

WISE, C. H., L.S.A.Lond., has been appointed Resident Obstetric Assistant at the Westminster Hospital, vice H. W. Macnamara.

Births, Marriages, and Deaths.

BIRTHS.

BOWES.—On the 2nd inst., the wife of J. Ireland Bowes, Medical Superintendent of the Wilts County Asylum, of a son.

O'NEILL.—On the 28th ult., at Brondesbury-road, the wife of J. G. O'Neill, M.B., of a daughter.

ROOME.—On the 16th ult., at Fitleis Villa, Guildford, the wife of H. A. Roome, M.B., of a son.

SALAMAN.—On the 4th inst., at Southsea, the wife of Surgeon-Major S. M. Salaman, I.M.D., of a daughter.

SANKEY.—On the 2nd inst., at Boreatton-park, Baschurch, near Shrewsbury, the wife of Arthur O. Sankey, of a daughter.

THOROWGOOD.—On the 31st ult., at Welbeck-street, Cavendish-square, W., the wife of John C. Thorowgood, M.D., F.R.C.P., of a daughter.

WALLACE.—On the 4th inst., at 26, Cazenove-road, Upper Clapton, the wife of Frederick Wallace, L.R.C.P.Lond., of a daughter.

WHITWELL.—On March 25th, at the Residency, Nepal, the wife of Surgeon-Major H. Whitwell, M.D., of a son.

MARRIAGES.

BIDDLE—BALLARD.—On the 1st inst., at the Parish Church, Merthyr-Tydfil, C. Biddle, L.R.C.P.Lond., to Mabel Mary, daughter of the late Benjamin Ballard.

BLAXLAND—BETTS.—On April 13th, at Gladesville, N.S.W., Herbert Blaxland, L.R.C.P.Lond., M.R.C.S., Medical Superintendent of the Hospital for the Insane, Callan-park, N.S.W., to Edith Jane, third daughter of the late J. A. Betts, Esq., of Parramatta.

FORTY—HICKS.—On the 1st inst., at the Parish Church, Easingwold, J. F. Forty, M.R.C.S., to Anne, eldest daughter of E. B. Hicks, M.R.C.S., of Easingwold.

HEYGATE—WALLER.—On the 1st inst., at Holy Trinity, Cloadesley-square, N., by the Rev. Churchill Julius, M.A., Vicar, Frederick Nicholas Heygate, M.R.C.S. &c., of Wellingborough, to Emily Appbia Waller, youngest daughter of the late Charles Waller, M.D., of Finsbury.

LUSH—INGRAM.—On the 7th inst., at St. John's, Weymouth, by the Rev. Canon Stephenson, William George Vawdrey Lush, M.D., M.R.C.P., to Sarah, youngest daughter of the late Rev. Rowland Ingram, formerly Vicar of Giggleswick, Yorkshire, and late Rector of Little Ellingham, Norfolk. No cards.

WILSON—CLIFTON.—On the 2nd inst., at St. Andrew's, Wells-street, James Wilson, A.M.D., son of the late T. Wilson, D.L., of Westbury, co. Dublin, to Frances Elliot, daughter of E. N. Clifton, of Harley-street.

DEATHS.

GARSTANG.—On the 1st inst., at Lytham, Walter Garstang, M.D., of Fern Bank, Lytham, and Dobcross, Saddleworth, aged 66.

HALE.—On April 3rd, at Nocton, Wairoa, New Zealand, Robert James Hale, M.D., in his 65th year.

JOHNSTON.—On the 30th ult., at Lynnwood, Penrith, Joseph Salkeld Johnston, M.D., Surgeon-Major (Retired), Army Medical Department, of Seal, Chart, Sevenoaks.

JONES.—On the 3rd inst., at his residence, Maryland's-road, Sutherland-gardens, Lewis Herbert Jones, M.R.C.S., L.R.C.P. Ed., second son of the late Rev. James Jones, Rector of Llanvwrog, North Wales, dearly loved and deeply regretted.

KING.—On the 27th ult., at Warwick-street, Rugby, Richard King, Staff-Surgeon R.N., aged 63.

LITTLE.—On the 1st inst., at Shenley, Herts, Charles Edward Little, M.R.C.S., aged 85.

PIRIE.—At South Tay-street, Dundee, George Clark Pirie, M.D., L.R.C.S.Ed., aged 50.

SMITH.—On the 28th ult., at Gravesend, Frederick Hodgkinson Smith, M.D., late Surgeon-Major H.M.'s Bombay Army, son of the late Samuel Smith, Esq., of Calcutta.

SPENCE.—On the 6th inst., at 21a, Ainslie-place, Edinburgh, James Spence, F.R.S. and F.R.C.S.E., Surgeon-in-Ordinary to the Queen in Scotland, Professor of Surgery in the University of Edinburgh. Friends will please accept of this the only intimation.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET OFFICE, June 8th, 1882.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo.	Max. Temp. Shade.	Min. Temp.	Rain fall.	Remarks at 8.30 A.M.
June 2	30·14	E.	59	53	92	64	49	..	Cloudy
,, 3	29·82	N.E.	62	59	102	68	55	·02	Hazy
,, 4	29·71	W.	62	60	114	69	52	..	Cloudy
,, 5	29·79	W.	60	56	93	65	48	·05	Overcast
,, 6	29·60	S.W.	58	58	92	65	54	..	Raining
,, 7	29·72	W.	61	55	112	70	51	·16	Cloudy
,, 8	29·87	W.	59	55	..	63	49	..	Cloudy

Medical Diary for the ensuing Week.

Monday, June 12.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M. each day, and at the same hour.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.

METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.

ST. MARK'S HOSPITAL.—Operations, 2 P.M.; on Tuesday, 9 A.M.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Jonathan Hutchinson, "On Temperament, Idiosyncrasy, and Diathesis in Relation to Surgical Disease."

Tuesday, June 13.

GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.

WESTMINSTER HOSPITAL.—Operations, 2 P.M.

WEST LONDON HOSPITAL.—Operations, 3 P.M.

ANTHROPOLOGICAL INSTITUTE OF GREAT BRITAIN AND IRELAND.—8 P.M. Rev. S. Mateer, "On Nepotism in Travancore."—Mr. G. W. Parker, "On the Laws of Madagascar."—Mr. G. H. Kinahan, "On Cummer, Co. Wexford."

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8 P.M. Ballot.—8.30 P.M. Dr. Sydney Ringer and Dr. H. Sainsbury, "On the Action of Salts of Potash, Soda, and Ammonia on the Frog's Heart."—Sir James Paget, "On additional Cases of Osteitis Deformans."—Mr. Davies Colley, "On Cases of Malignant Pustule, with Report on the Microscopic Examination of Sections from the Skin, by Dr. Charlewood Turner."

Wednesday, June 14.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.

ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.

ST. MARY'S HOSPITAL.—Operations, 1½ P.M.

LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.

GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.

SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M., and on Saturday at the same hour.—Skin Department: 1.45 P.M., and on Saturday at 9.15 A.M.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Jonathan Hutchinson, "On Temperament, Idiosyncrasy, and Diathesis in Relation to Surgical Disease."

ROYAL MICROSCOPICAL SOCIETY.—8 P.M.

Thursday, June 15.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.

ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.

CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and on Friday at the same hour.

HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.

NORTH-WEST LONDON HOSPITAL.—Operations, 2½ P.M.

Friday, June 16.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.

ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—4 P.M. Professor Jonathan Hutchinson, "On Temperament, Idiosyncrasy, and Diathesis in Relation to Surgical Disease."

Saturday, June 17.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

Notes, Short Comments, and Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Letters, whether intended for publication or private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

Lectures, original articles, and reports should be written on one side only of the paper.

We cannot prescribe, or recommend practitioners.

Local papers containing reports or news-paragraphs should be marked.

All communications relating to the editorial business of the journal must be addressed "To the Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *to be addressed "To the Publisher."*

OLEATES IN SKIN DISEASE.

DR. J. V. SHOEMAKER, of Philadelphia, in a paper read recently before the Medical Society of the State of Pennsylvania, spoke strongly of the value of oleates in certain cutaneous affections. Oleate of zinc he recommended as *the* remedy in hyperidrosis and osmidrosis; oleate of aluminium as having a most decided action in checking muco-purulent discharges in eczema; oleate of iron as a mild astringent when brought in contact with an ulcerating surface; oleate of arsenic he stated will destroy cell infiltration in a comparatively painless manner, and is therefore useful in lupus and epithelioma; oleate of silver he regarded as a safe and efficacious remedy in erysipelas and as an application to boils and carbuncles. The superiority of the oleates over ordinary ointments was shown, he believed, in their deep penetration, their freedom from rancidity, their cleanliness, their great economy, and their antiseptic action.

THE SHOTTS IRONWORKERS AND THEIR MEDICAL ATTENDANT.

AFTER the most satisfactory statement of Mr. Caldwell in reference to his assistants and his systematic supervision of their work, we think it unreasonable to continue any agitation. This is also the manager's opinion.

Mr. Cecil Moryan.—There is no novelty in the method described.

ANIMAL VACCINATION.

To the Editor of THE LANCET.

SIR,—The dismal duty I have imposed upon myself of keeping *au courant* with the trash dignified as the "literature of anti-vaccination" brings continually to my notice the repetition of a quotation from THE LANCET, which I clip from one of their broadsides and insert here:—"LANCET, June 22, 1878.—The notion that animal lymph would be free from chances of syphilitic contamination is so fallacious that we are surprised to see Dr. Martin reproducing it." Will you permit me to ask why it is a fallacy for me to claim that pure heifer-transmitted cow-pox virus is free from the danger of being the vehicle of syphilitic contamination which, deeply to my regret, it must be admitted that recent well-known researches have proved to be, however rarely, possible with the virus from the human subject, however carefully selected and employed? I am aware of a reputed case from Paris, in which a vaccinator employed heifer lymph on a lancet on which remained the blood of a previous and syphilitic vaccinee, and so induced vaccinal syphilis; but I cannot conceive it possible that you intended to convey the idea that such a case, or ten thousand such, invalidated the claim which I certainly set up for pure heifer-transmitted cow-pox virus. I hope you will reply to this note of inquiry in the spirit in which it is written, of no wish to cavil or object, but simply to ascertain why you consider my assertion of the freedom of true bovine lymph (not retro-vaccine lymph) from the inherent syphilitic possibilities of humanised vaccine virus a fallacy, at which you are surprised—a surprise which is evidently converted into a delight in the feeble brain of many an anti-vaccinator.

I am, Sir, yours truly,

Boston, S.A., April 23th, 1882. HENRY A. MARTIN.

*** The lines were written in the early days of "animal vaccination," when an inspection of the animal vaccine stations in Paris suggested that the multiplication of attendants on the calves made use of must of necessity multiply those accidental chances of syphilitic inoculation which had unhappily been illustrated in that city and elsewhere. Fortunately our fears have not been confirmed, and we now know, especially from Dr. Martin's experience, how free from any suspicion of danger these animal vaccine stations can be kept.—ED. L.

EXAMINATIONS AT THE ROYAL COLLEGE OF SURGEONS.

AT the half-yearly examination for the Fellowship of this institution, which was brought to a close on the 27th ult., there were seventeen members of the College as candidates, the dates of whose diplomas ranged from January, 1865, to July, 1879. To these gentlemen the following questions on Pathology, Therapeutics, and Surgery were submitted at the written examination on the 25th of May, when they were required to answer the whole of the questions, from 1.30 to 5.30 P.M.:—

1. Give an account of recent observations on the origin and mode of growth of cancer; especially in relation to the tissue of glands.

2. Discuss the causes of non-union of fractured bones, and mention the methods you would adopt to procure union.

3. Describe the characters presented by the vein on dissection in a case of acute phlebitis. Give an account of the course and effects of the disease.

4. Mention the various modes of relieving the bladder in retention of urine, and discuss their relative advantages and disadvantages.

WHY CHLOROFORM IS SAFE IN LABOUR.

To the Editor of THE LANCET.

SIR,—With regard to Dr. Grabham's question in your issue of April 1st, I suppose few will doubt that the explanation of the safety of chloroform in labour is due to the fact that normal pregnancies are associated with a thickened condition of the cardiac wall. An increased contractile power in the heart when two or more lives have to be supported in one body, we should *à priori* expect, and as a matter of fact we usually find this anticipation clinically confirmed. But we may go further. Why do pelvic surgeons find chloroform and its congeners suffer more than other surgeons appear to do? Now, here we enter on a very interesting piece of pathology, corresponding with the physiological cardiac hypertrophy of pregnancy. Diseases which simulate pregnancy are prone to set up the same reflex trophic cardiac stimulation as that induced by pregnancy itself. This is a very curious fact, not, I think, recognised by the profession at large. I will give some examples which have come under my notice. In two women of middle age marked cardiac centric hypertrophy appeared combined, in the one case with cervical polypus, in the other with general fibrosis of the uterus leading to enormous eccentric hypertrophy of that organ. The rushing of blood through the distended lateral sinuses simulated accurately a double placental souffle. Both these were unmarried women leading chaste lives. But the most remarkable case was in a younger patient, about twenty-five. In this instance I watched a systolic upward bruit develop with endometritis and anteflexion, and on the removal of the endometritis the bruit totally disappeared. She afterwards married and became *enceinte*, and back, sure enough, came the cardiac murmur.

In neither of these cases was there any history of over-exertion, acute polyarticular arthritis, albuminuria, anæmia, or chorea to explain the cardiac condition on other grounds. An interesting point in the polypus case, is that on removal of the growth the patient slept peacefully for the first time for many months, during which, in spite of the liberal use of tincture of belladonna and digitalis as well as of bromide, she had been afflicted with most persistent insomnia.—I am, Sir, yours, &c.,

Seymour-street, Hyde-park, April 4th, 1882. EDWARD BLAKE.

Anxious, M.R.C.S., should pass a full-sized metallic bougie every second day for ten to fourteen days, apply cold ablutions, and give tonics internally. Care must be taken to avoid exposing the eye to wind, dust, or smoke, and to reading small type, especially by artificial light.

H. J. J.—Probably Matthews, Portugal-street.

Mr. T. R. Allinson.—Cobbold's Entozoa; Kuchenmeister (Syd. Soc. Ed. 1857); and articles in Ziemssen's, Reynolds', and other treatises of medicine.

An Elected Fellow will not be allowed to record his vote at the ensuing election of Fellows into the council of the College until admitted.

URINE TUBES.

To the Editor of THE LANCET.

SIR,—I do not know whether the same idea has occurred to other members of the profession, but deposits of urine can be very easily conveyed from patient's homes, or to the houses of consultants, by adopting the following method. In many cases much time may thus be saved, and an important diagnosis confirmed without the lapse of many hours. The urine should be poured into a vessel, of about the same depth as a wineglass; after it has settled take a large capillary vaccine tube, seal it at one end in a flame, then pass the other end to the bottom of the vessel, break off the top, and the urine, with its deposit, will flow up readily enough. The tube can now be withdrawn, sealed at both ends, and put in an ordinary vaccine box for transport, and is easily blown on to a slide for microscopical examination. One very important use of this plan is that it can be sent by post to scientific experts. Two very eminent physicians have expressed their approval of the method, and I have no doubt that it will prove very useful.

I am, Sir, yours truly,

Clapham, May 22nd, 1882. EDGAR DUKE.

CULTIVATION OF THE CINCHONA IN THE UNITED STATES.

DR. G. B. LORING, as Commissioner of Agriculture, in reply to a resolution of the United States House of Representatives desiring information relative to the cultivation of cinchona in the States, reports "that the Department of Agriculture has, for the past sixteen years, annually distributed cinchona plants, some seasons to the amount of many hundreds, and that the reports received afford but little hope for success, except in Southern California, and, so far, no trustworthy experiments have been made in that region."

Mr. Murdock.—The medical man in question could have no difficulty in deciding that, as he could not be in two places at once, his duty was to be with the lying-in woman. A simple statement of his other engagement would, we think, satisfy the guardians. It is not reasonable to expect the medical officer to attend the district relief meetings unless specially summoned.

HYDROBROMIC ACID.

To the Editor of THE LANCET.

SIR,—The above remedy has been of much service to me of late. In the spring of the present year a young lady, the subject of severe and frequent headaches, accompanied with flushing of the face and at times with ringing in the ears, consulted me. On examination I found her to be perfectly healthy and *regular* in every way; no apparent cause of the attacks was discoverable. Before seeing me she had undergone a previous course of treatment in the south without benefit. I ordered her fifteen minims of the acid thrice a day after meals in a little sweetened water. This treatment was continued for three weeks (the dose being increased to twenty and twenty-five minims respectively), the happiest possible results accruing, and up to this date she still enjoys complete immunity from her tormentor. Given in combination with quinine, I have found it mitigate or entirely prevent the headache which often accompanies the use of that drug in those who are particularly susceptible to its physiological effects. In a case of persistent toothache occurring during pregnancy I attained a satisfactory result from the use of this acid, as suggested in certain notes on investigations into the therapeutics of this substance by Massini.

I am, Sir, your obedient servant,
Belford Hospital, Fort William, N.B., W. B. MOIR, M.D.
May 20th, 1882.

HYDROPHOBIA.

To the Editor of THE LANCET.

SIR,—As a constant reader of your valuable journal, I have from time to time observed the numerous cases of hydrophobia which have occurred during the past two or three years, and, if I am not in error, every case has had a fatal issue. As nothing whatever seems to be known of the pathology of this disease, and all treatment hitherto adopted has been evidently valueless, I beg to suggest the subjoined to the profession:—Instead of the usual cauterising, let the wounds (usually punctures) be slightly enlarged, and cup if possible. Keep the wounds open for a few days, poulticing during this time. The period of incubation varies from days to months, but is usually months. It occurs to me that the virus of rabies enters the circulation very slowly indeed, or perhaps may remain dormant in the wounds; if so, cupping and poulticing seem to me a rational procedure. The former might possibly eliminate any deposited poison, while the latter would certainly cleanse the wounds. The proceeding suggested itself to me from the fact that the aborigines of Australia, when bitten by snakes, have the part immediately sucked, the result being that in very many cases no bad symptoms eventuate.

I am, Sir, yours, &c.,
JOHN H. HONEYMAN, L.R.C.P. &c.
Auckland, April 25th, 1882.

Student, St. B. H.—1. Yes, but not in the form met with in children.—2. Yes.—3. Externally as a lotion; internally in one drachm doses two or three times a day.—4. It is a liquid extract, and used as such.—5. Any respectable chemist sells it; it is sold wholesale by Burroughs and Wellcome.

Subscriber.—1. Our correspondent's action in the matter was right.—2. Constable and Co., Edinburgh.—3. Hurst and Blackett, London.

PULVIS KINO COMPOSITUS IN INFLUENZA.

To the Editor of THE LANCET.

SIR,—In a recent severe catarrh, accompanied by a profuse and distressing discharge from eyes and nostrils, I obtained very speedy relief by the use of the ordinary pulvis kino compositus as snuff. The discharge was stopped within a few minutes, and, though it recurred later on in the day, a repetition of the snuffing process was again most effectual, and the following morning all symptoms had disappeared. As the discharge was stayed without the substitution of the wretched headache, which often follows the stoppage, I venture to hope that this simple and pleasant treatment will prove valuable; and I beg to draw the attention of your readers to it, in the hope that further testimony, for or against this method, will be forthcoming. Certain it is that any relief which can be suggested for this complaint will be gladly heard of.

I am, Sir, yours truly,
New Leeds, May 29th, 1882. G. A. HAWKINS-AMBLER.

FIAT EXPERIMENTUM IN CORPORE VILI.

A POOR PATIENT in a hospital heard the physician at his bedside say to his colleague, "*Fiat experimentum in corpore vili*," not imagining that the man understood Latin. "*Corpus non tam vile est*," said the poor patient, "*pro quo Christus ipse non dedignatus est mori.*" Sir John Hawkins records this incident, and says that Dr. Johnson was greatly pleased when he heard it.—*Leisure Hour.*

Mr. Humphy.—The guardians must be held to be the judges of the propriety of claims to out-door medical relief.

Pater has not enclosed his card.

Investigator.—1. Colebrooke-row, Islington, N.—2. 120, Stockwell-road, S.E.

F. H. G.—Thanks. The matter is under consideration.

Professor Struthers is thanked.

THE UNBREAKABLE HYPODERMIC SYRINGE.

To the Editor of THE LANCET.

SIR,—We notice in your issue of the 3rd inst. a letter from Messrs. Arnold and Sons, stating that the credit of adopting screws on the glasses of hypodermic syringes belongs to them, and also accusing us of copying their patent. We must most emphatically repudiate any such insinuation, for we have manufactured and supplied quantities of these instruments to large firms for the last ten years. As Messrs. Arnold fix their introduction in 1878, we have therefore a decided claim to priority. Several years previous to 1878 syringes with screwed glasses were patented in Germany by the inventor (a large manufacturer of these goods in Berlin), and within a few months in America by an instrument maker in New York. The idea remaining unprotected in England, it was immediately adopted by many makers here (ourselves among the number), and subsequently in 1878 by the Messrs. Arnold, as stated in their letter. Our patent is for "unbreakable cylinders," but we have adopted the plan of screwing as being more convenient. Your correspondent of May 20th is quite in order when writing that this is an improvement over those where the barrels are merely cemented.

We are, Sir, yours obediently,
London, June 7th, 1882. THOMAS NICHOLLS & SON.

A SUGGESTION.

To the Editor of THE LANCET.

SIR,—In the "Leçons de Clinique Thérapeutique," second series, second part, by Dujardin-Beaumetz, of Paris, two cases of direct application of quinine to the lung are reported. They were used in pernicious fever, and the results were all that could be wished. Can this system of medication be used in cases of phthisis for the destruction of Koch's bacilli? It must be remembered that a far smaller quantity of a drug thus applied is requisite to produce toxic effects than when administered in any other way. Thus dogs were killed by three centigrammes of extract of nux vomica injected by the trachea, while ten centigrammes administered by the stomach had no effect whatever on them.

I am, Sir, yours faithfully,
J. A. MENZIES, M.D. Ed. and Paris.
Griante, Cadenabbia, May 29th, 1882.

Subscriber.—Our remarks were based on facts obtained from the numerous inquests on short-term prisoners either occurring in gaol or shortly after their release, and from letters from prison officials and medical men under whose notice cases have come. We are still collecting evidence which we shall hope to bring before the public at the proper time. The Secretary of the Howard Society can afford much interesting information on the point.

MORTALITY IN CHILDBED.

To the Editor of THE LANCET.

SIR,—Reading your leading article in this week's LANCET, where you say "the statistics of private practice would be of the highest value," I venture to send you the result of three years' midwifery, ending Dec. 31st, 1881, in this neighbourhood. The following is the result of 414 confinements:—

No. of children, 429 (males 222, females 193).

No. of forceps cases, 23; craniotomy, 1; breech, 11; stillborn, 16 (over 7 months); version, 2; adherent placenta, 3; post-partum hæmorrhage, 1; convulsions, 1; twins, 6 (4 were males, 1 female, 1 male and female); deaths, 0.

It will be seen that the number of forceps cases is equal to 5·5 per cent., and, speaking broadly, my reasons in using them are precisely those advocated by Dr. Johnston, of the Rotunda Hospital, and quoted by Dr. Playfair in his work of the "Science and Practice of Midwifery," and with whose opinions I respectfully agree. Up to the present time this year I have had 63 cases, making in all 492, and, I am thankful to say, without one maternal death. Some of these cases I have attended more than once. I am, Sir, yours very truly,

A. S. GRIFFITH, M.D.
Queen's-park, Harrow-road, June 5th, 1882.

THE LATE MR. DARWIN.

THE Rev. E. M. Geldart relates in the *Field Naturalist* the following anecdote:—

"As an instance at once of the modesty and penetration of the late Mr. Darwin, some boys found first a dytiscus, and afterwards some frogs, with small fresh-water mussels clinging to their hind legs. Puzzled by the phenomenon, they made bold to write to Mr. Darwin, asking him if he could throw any light upon the subject. In return they received a very kind answer, thanking them for the very great light which they had thrown on a problem which had long puzzled him—viz., how it came about that mussels which can neither fly nor walk can migrate from one pond to another."

Mr. T. Horne (Sandwich).—S. Homersham, Buckingham-street, Adelphi; Edward Easton, Delahay-street, Westminster; J. Mansergh, 3, Westminster-chambers.

M. H. B.—Scoresby Jackson on Climate (J. and A. Churchill).

SCARLET FEVER.

To the Editor of THE LANCET.

SIR,—That scarlet fever is "assuming a milder type," "is not so terribly infectious," or "that our improved knowledge of sanitary matters" is exerting any marked influence over epidemics, I have yet to experience. It seems to me that each epidemic varies in type, each cycle differs in contagious force from its predecessor; "type" will explain therefore all the cases being mild in Mr. Lumley's neighbourhood, and their natural powers of resistance to a small dose. New surroundings at a contagious period and power of receptivity (congenial soil) will explain also "the case of the sixth child contracting the disease on returning home."

As medical officer of health and as medical attendant in an epidemic of 180 cases during the past winter in this district, perhaps I may be entitled to speak with some authority. We had a mortality of sixteen cases, giving a death-rate of 9·41 per cent., or 0·91 per cent. above the standard of comparison (8·50) from the mean of epidemics. I may add that half of the number of deaths was in children under five, that the whole accrued from the anginose form with the exception of three of a malignant type. The most rigid preventive means were adopted, general disinfection, and all practical isolation carried out. Remote isolation, the most powerful prophylactic, was, however, at the best imperfect and exceptional, thanks to the cheeseparing policy of a so-called sanitary authority (I refer to the generally felt want of a sanatorium). Some climatic or barometric condition, essential (?) to the life of the special organism of the disease, would seem to explain its proclivity for certain districts very often—ex. gr., valleys, sides of hills, and mountain ranges.

Summarily, all we know of scarlet fever is, that it is a *materies morbi*; micro-pathology yet fails to differentiate or define its organism, and whether a bacillus, a micrococcus, or a bacterium, we shall probably only inadequately deal with it while we are in the dark concerning its nature. Prevention in a generally prevalent disease will be reliable only when this is elucidated, and vaccination or some other means found out to stay its development. Arguing by analogy, it would thus seem that nothing short of an attenuated solution of a special virus for a specific type of disease will stay its development, or, failing to do this, impede its march or check its fatal tendency.

The behaviour of epidemics will alone, then, be explained by "type." A mild type of the disease will only generate its kind, an epidemic wave of a severe or "mixed" type its congeners, and so forth (little influenced by sanitary laws or remote isolation), each wave producing its own kind by marks as specific as those which distinguish "the elder from the ash or the hemlock from the poppy."—I am, Sir, yours, &c.,

HERBERT A. SMITH, M.R.C.S., &c.

Mere, Wilts, May 20th, 1882.

Mr. G. Wood.—We do not prescribe. Any registered medical practitioner would advise in the case.

Dr. Jno. Highet.—Lumley's Manual (Knight and Co.).

ERRATA.—Our remarks on the Primary Fellowship of the Royal College of Surgeons last week were wrongly entitled "Physiological Examination."—The heading of the first column in the table of Hyperpyrexia, on page 930, should have been "*Maximum* temperature, not "Morning temperature."—By a printer's error, the signature to the letter which appeared in our issue of April 8th, p. 590, entitled "Invagination of Transverse Colon," was printed "Richard Park, L.K.Q.C.P.I., M.R.C.S.," instead of Richard G. Jack, &c.

COMMUNICATIONS not noticed in our present number will receive attention in our next.

COMMUNICATIONS, LETTERS, &c., have been received from—Professor Struthers, Aberdeen; Dr. Geo. Johnson, London; Dr. Bristowe, London; Sir W. Jenner, London; Sir Charles Trevelyan; Mr. Jack, London; Dr. G. de Courcy Morris, London; Dr. Wiltshire, London; Mr. Davies-Colley, London; Mr. T. Bryant, London; Mr. W. Edes, Dover; Mr. Barton, Liverpool; Dr. Griffith, Harrow; Mr. Duncan, Oldham; Mr. F. Stephens; Dr. Vance, Brighton; Mr. Honeyman, Auckland; Mr. Shirley Deakin, Allahabad; Mr. Stewart, London; Mr. S. Snell, Sheffield; Mr. Barnardo, London; Messrs. Dorn and Co., Hamburg; Dr. C. Leach, Sturminster; Dr. Marriner, Palmerston North, N.Z.; Mr. Davidson, Aberdeen; Mr. Humphry, Wisborough-green; Mr. Chauncey Puzey, Liverpool; Mr. T. Horne, Sandwich; Mr. Bernstein, Birkenhead; Major Osmond, Bath; Mr. Cookson; Mr. Whitford, London; Mr. R. Borth, Cambridge; Mr. John Deans, North Tawton; Mr. J. F. Streatfeild, London; Mr. Andrew Clark, London; Mr. Rushton Parker, Liverpool; Mr. C. Morgan; Mr. Joy Jeffries, Boston, U.S.A.; Rev. R. Hammond, Brighton; Mr. St. John Fairman, Cairo; Mr. Auchenleck, Dublin; Mr. F. Churchill, London; Mr. C. Pope, South Shields; Dr. Atkinson, London; Mr. Bennett May; Mr. Allsop, Shipley; Mr. Hornbrook; Dr. Bower, Bedford; Mr. Reid, Addlestone; Dr. M'Vail, Glasgow; Dr. Gillespie, London; F. H. D.; Medicus; The Registrar of the General Medical Council; Enquirens; A. M.; Nemo; Subscriber; M.D., Univ. Edin.; L.R.C.P.; D. P. Ajax; Sponsor; &c., &c.

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Melbourne Weekly Times, Melbourne Observer, Melbourne Bulletin, Brighton Examiner, North-Western Gazette, Ilkley Free Press, Night and Day, Airdria Advertiser, Grimsby Observer, Eastern Argus, Colchester Chronicle, Vaccination Inquirer, Kensington Parliament, Melbourne Punch, &c., have been received.

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